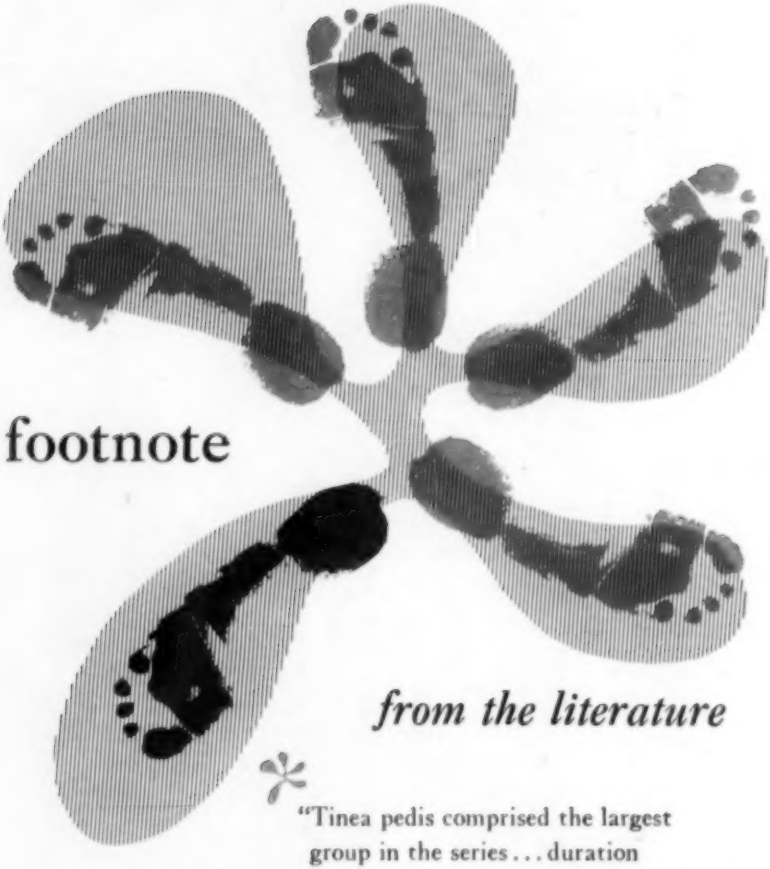
Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

VOL. 82 AUGUST 1954 NO. 8



footnote

from the literature

"Tinea pedis comprised the largest group in the series . . . duration of treatment . . . ranged from one week to two months . . . in 24 patients the condition healed completely; in 24 it improved strikingly, and in 6 it failed to respond . . . no adverse reactions from applications of Asterol dihydrochloride were observed."

H. G. Ravits, *J. A. M. A.*, *148*:1005, 1952.

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Dihydrochloride

'Roche'

5% tincture
5% ointment
5% powder

Asterol®—brand of diamthazole

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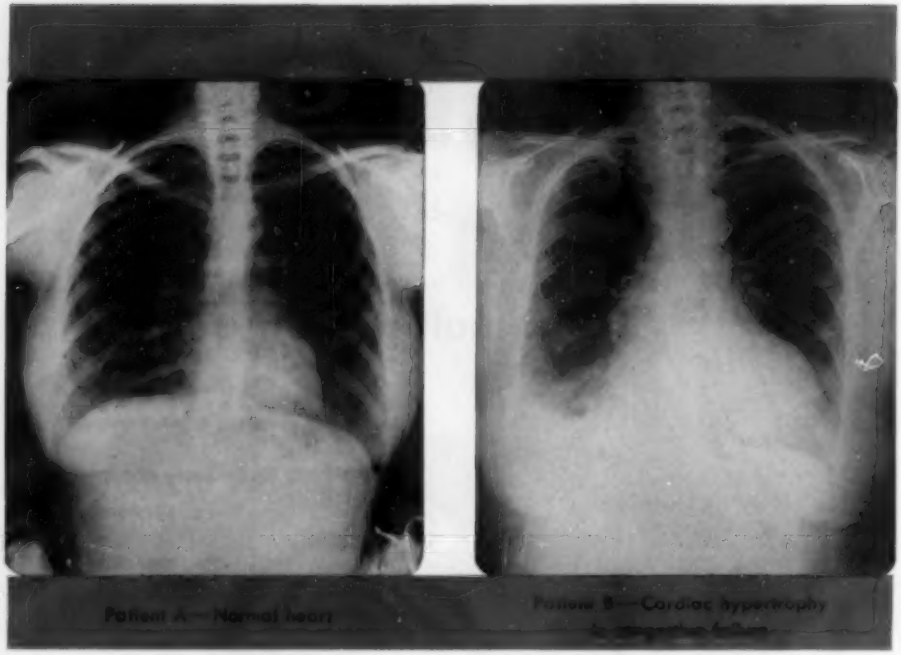
in congestive failure



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1. U. S. Dispensatory. J. B. Lippincott Co., Philadelphia, 24th ed., 1947.

Wyeth
Philadelphia 7, Pa.

PURODIGIN®

CRYSTALLINE DIGITOXIN

CONTENTS

Opinions expressed in articles are those of the authors and do not necessarily reflect the opinion of the editors or the Journal.

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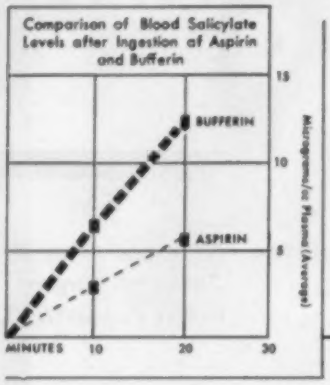
Faster Pain Relief with BUFFERIN®

1 ACTS TWICE AS FAST AS ASPIRIN

The antacids in Bufferin speed its pain-relieving ingredients through the stomach and into the blood stream. Actual chemical determinations show that within ten minutes after Bufferin is ingested blood salicylate levels are higher than those attained by aspirin in twice this time.[1]



2 DOES NOT UPSET THE STOMACH

Bufferin's antacid ingredients protect the stomach against aspirin irritation. This has been clinically demonstrated on hundreds of patients.

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In a series of 238 cases, 22 had a history of gastric distress due to aspirin but only one reported any distress after taking 2 Bufferin tablets (equivalent to 10 grains of aspirin).[2]

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In a recent study group, 1006 patients received, over a 24 hour period, 12 Bufferin tablets (equivalent to 60 grains of aspirin). Although 72 had a history of being sensitive to aspirin, only 18 reported any gastric side-effect with Bufferin.[2]

1. Effect of Buffering Agents on Absorption of Acetylsalicylic Acid. J. Am. Pharm. Assoc., Sc. Ed. 39:21, Jan. 1950
2. Gastric Tolerance for Aspirin and Buffered Aspirin. Ind. Med. 20:480, Oct. 1951

INDICATIONS: Simple headaches, neuralgias, dysmenorrhea, muscular aches and pains, discomfort of colds and minor injuries. Particularly useful when gastric hyperacidity is a complication. Useful for relieving pain in the treatment of arthritis.

EACH BUFFERIN TABLET contains 5 grains of acetylsalicylic acid, together with optimum amounts of the antacids aluminum glycinate and magnesium carbonate.

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CONTENTS

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relieves **pain⇄spasm** usually in ten minutes

DACTIL relieves gastroduodenal or biliary pain so quickly that you can usually see it work right in your office.

DACTIL capsules act at the site of visceral pain—relieve pain ⇄ spasm within minutes and control spasm within two days. Unusually well tolerated, DACTIL does not interfere with gastrointestinal or biliary secretions, normal tonus or motility.

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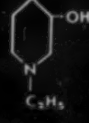
DACTIL with Phenobarbital in bottles of 50 capsules. There are 50 mg. of DACTIL and 16 mg. of phenobarbital (warning: may be habit-forming) in each capsule.

DACTIL (plain) in bottles of 50 capsules. There are 50 mg. of DACTIL in each capsule.

DACTIL, first of the Lakeside piperidol derivatives, is the *only* brand of N-ethyl-3-piperidyl diphenylacetate HCl.



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MEDICAL BOOK NEWS

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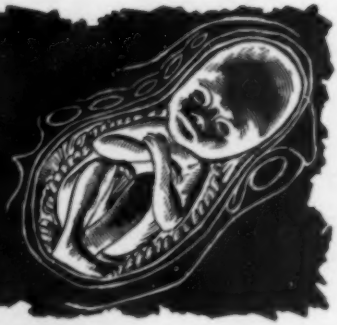
with des or desPLEX



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des, the only micronized, triple crystallized (Grant Process) Stilbestrol (U.S.P.) Tablets—used in the treatment of pregnant women, with a history of one, two or more abortions—***averaged 96% normal live babies delivered***[1,2,3].

After extensive clinical experience with des, Karnaky[1], Gitman and Koplowitz[2] and Ross[3] as well as countless other clinicians wholeheartedly endorse the sound therapeutic necessity for the use of des in threatened abortion, habitual abortion and premature labor.

In a most recent publication, Karnaky has demonstrated that des, in massive doses (275 milligrams daily) provides optimum therapeutic results with maximum safety.

des—25 milligram tablets—highly micronized, triple crystallized (Grant Process) Stilbestrol (U.S.P.)—dissolve within a few seconds and are uniformly absorbed into the blood stream. Available in containers of 30 and 100 tablets.

new desPLEX—vitaminized, micronized Stilbestrol (U.S.P.). Border-line deficiency of B complex, especially Folic Acid, may sometimes prevent maximum utilization of estrogens. Histories of such cases indicate that the woman had difficulty in metabolizing endogenous or ingested estrogens. Not unusually, mild to severe nausea and vomiting is symptomatic. For additional support, when indicated, prescribe desPLEX, micronized Stilbestrol (U.S.P.), fortified with vitamin C plus B complex, including Folic Acid and B_{12}.

Karnaky[4] and Javert[5] agree that C and B complex vitamins and Folic Acid are necessary for the normal physiological metabolism of estrogens. Jailer[6] further substantiates that a border-line deficiency of Folic Acid may result in premature separation of the placenta. *That is why desPLEX is the product of choice.*

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For further information, write:

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Medical TIMES

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Raudixin lowers blood pressure in gradual, moderate stages. "A sense of well-being, decrease in irritability, 'improvement in personality' and relief of headache, fatigue and dyspnea" are frequently described by patients.[1]

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In mild or moderate cases it is usually effective alone; "...when rauwolfia is combined with other hypotensive agents, an additive hypotensive effect frequently is observed even in severe hypertension."[2] "It produces no serious side effects. It apparently does not cause tolerance."[1] 50 and 100 mg. tablets, bottles of 100 and 1000.

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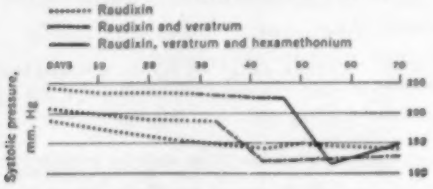

Raudixin Squibb rauwolfia

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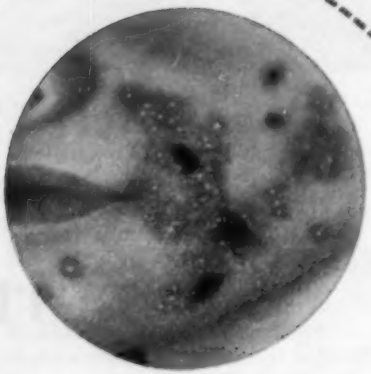

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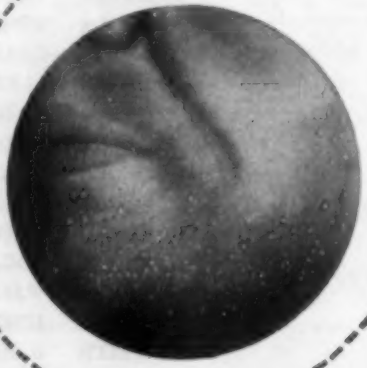

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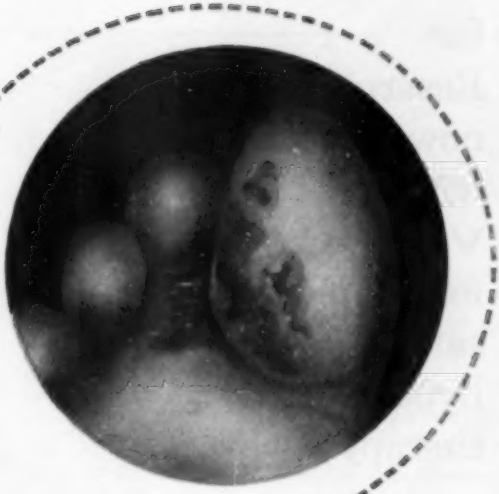


effective

"Sterosan is effective not only against staphylococci but also against streptococci and enterococci."[9] "...shows extraordinarily potent antibacterial and antifungal action."[15]

distinctive

chemotherapeutic agent, unrelated to the antibiotics, sulfas or adrenocorticoids. No bacterial resistance, cross-sensitization or drug tolerance noted. STEROSAN retains full activity..."even when the bacteria count is high and in the presence of decomposition products of human proteins."[16]

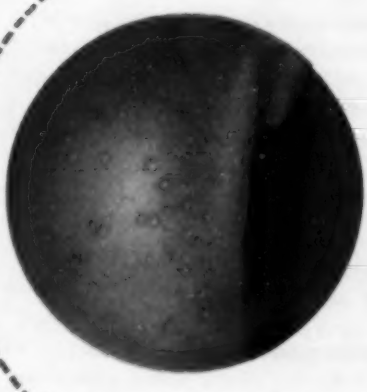
pleasing

to use, light color, agreeable odor, stable, non-bleaching, virtually non-staining. "No pigmentary changes were noted following its use on the skin...Simple tests upon linens, clothing, etc., do not indicate any harmful effects."[17]

well tolerated

over large body surfaces, for prolonged periods, with minimal irritation or sensitization. "In all cases, patch tests were performed... there were no positive reactions."[12]

STEROSAN® (brand of chlorquinaldol) Ointment and Cream, in 30 Gm. tubes. Prescription required.



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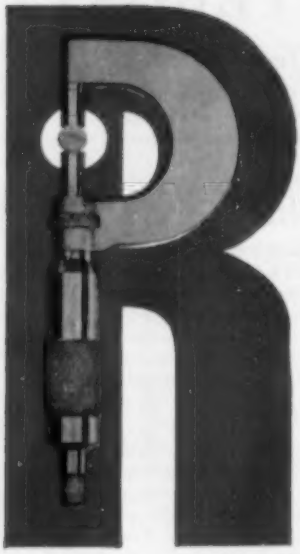

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Reserpine
now combined
with
VERALBA*
for simpler,
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hypertension
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In the treatment of mild, moderate, or malignant hypertension, combination of the protoveratrines with reserpine in VERALBA—R offers five outstanding clinical advantages:

1) Maintains normal or near-normal blood pressure indefinitely;
2) Combines additive vasodilation of two of the safest, most effective antihypertensive agents;
3) Tranquilizes the emotional patient;
4) Avoids unpredictable responses by the use of pure, crystalline alkaloids which are completely standardized by chemical assay;
5) Permits dosage schedule to be established easily, with continued and uniform responses to be expected thereafter.

SUPPLIED: Each VERALBA—R tablet contains 0.4 mg. of protoveratrine and 0.08 mg. of reserpine. *In bottles of 100 scored, uncoated pink tablets.* *TRADEMARK

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Off the Record . . .

True Stories From Our Readers

Each incident described has been contributed by one of our readers. Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported German apothecary jar will be sent in appreciation for each accepted contribution.

Double Impressions

About a year ago, an old patient of mine (a jolly alcoholic), was struck by a car and taken to the hospital. I was called and found him in shock. His injuries were a severe contusion of the chest and several fractured ribs. The right fibula showed a non-displaced fracture near the ankle, but the left ankle was badly comminuted and displaced.

After the shock was adequately treated, he was anesthetized, the left ankle was reduced, and a cast applied. An elastic bandage was used to bind the right ankle. He was bedridden, and I thought one cast was sufficient.

Very little sedation was needed as his son-in-law was bringing him about a quart of whiskey a day (unbeknown to me or the staff).

About a week after admission, Pat said to me in the course of my rounds, "Doctor, my son-in-law, John, was in to see me last night and told me that the insurance adjuster would pay me a visit soon. Don't you think he would be greatly impressed if you'd put a cast on my other leg, too?"

I. S. D., M.D.
Stamford, Conn.

This Is Flattery?

The following incident, which occurred in my office, has made me wonder if we G. P.'s look as shabby as a patient of mine would have led me to believe one day.

I had just gotten my middle-age "specs" for reading and was wearing a suit recently returned from the cleaners. The patient, a woman of about sixty who had been under my care for about twelve years, drew back and exclaimed: "Doctor, you look so nice today with your glasses and that pretty suit. Why, you look exactly like a specialist!"

E. H. A., M.D.
Washington, D. C.

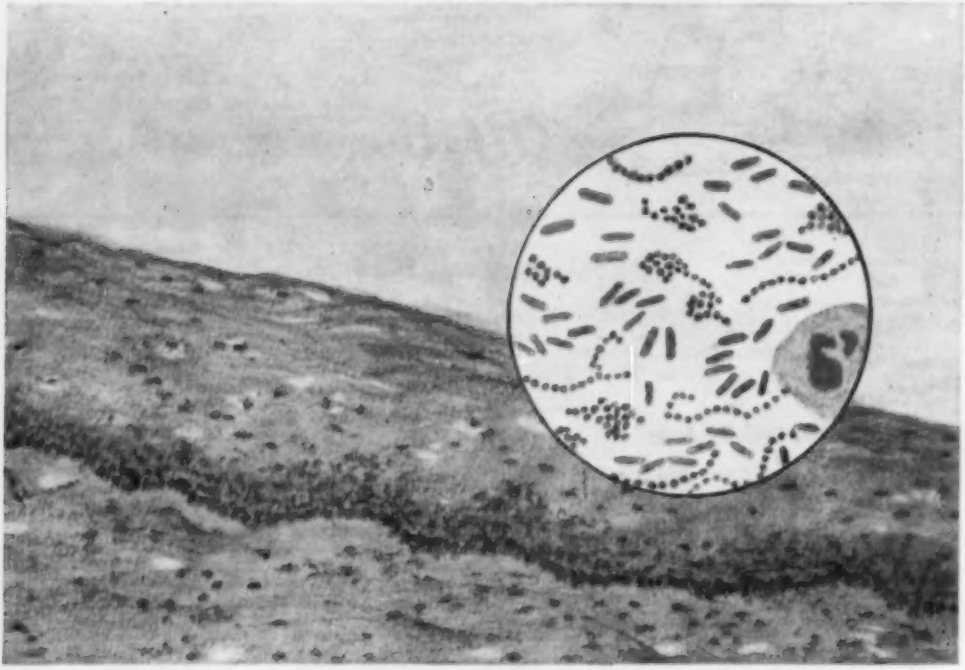
Night Call?

While doing a pelvic examination on one of the brighter of the opposite gender, I discovered two large uterine fibroids. Lacking previous knowledge of internal examinations, I questioned this subject, "When was an internal done on you last?"

Without hesitation, the response was, "Two o'clock this morning, Doctor."

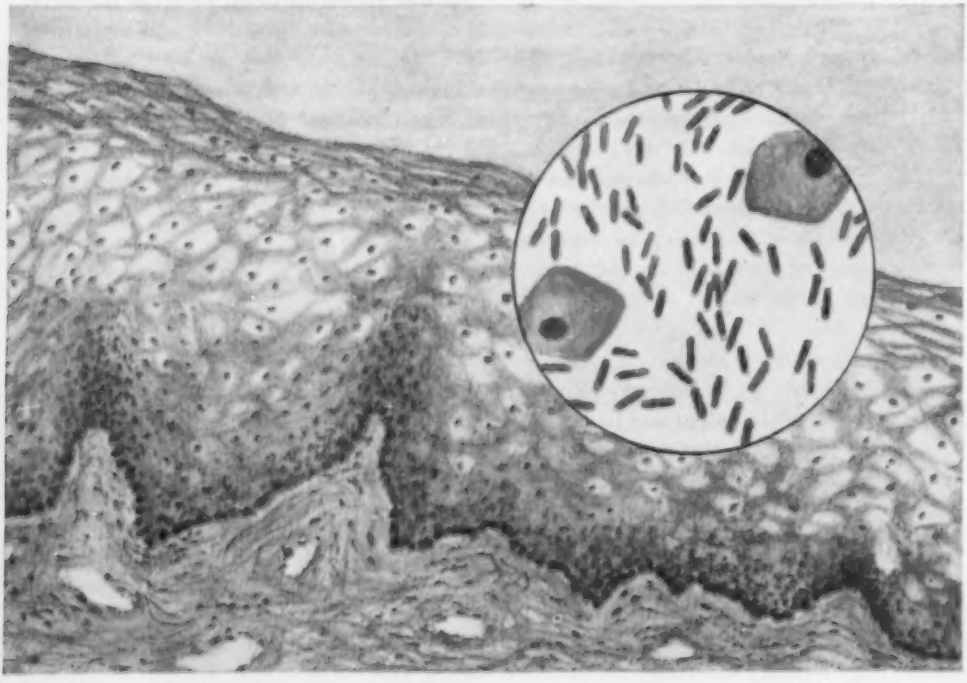
M. S. H., M.D.
Chicago, Ill.

—Concluded on page 21a



Above: Senile vaginal epithelium is low in glycogen, low in acid and (inset) low in protective Döderlein bacilli, encouraging growth of pathogens.

Below: Normal vaginal epithelium is high in glycogen, definitely acid and (inset) abundant in Döderlein bacilli to combat pathogenic organisms.



Restoring the Normal Acid Barrier to Trichomonal Vaginal Infection

To discourage multiplication of trichomonads and to encourage physiologic protection, a comprehensive therapeutic regimen with Floraquin® is instituted.

THE normal vagina, by reason of its acid reaction, is provided with a natural barrier against pathogenic microorganisms which require an alkaline medium. When the "acid barrier" is removed, a hypo-acid state results and growth of the protective, physiologic and nonpathogenic Döderlein bacilli is inhibited—to be replaced by such pathogenic organisms as the trichomonad, streptococcus, staphylococcus, colon bacillus and Monilia candida.

As infection develops, the epithelial cell layers, which normally number between forty-five and fifty-five, may decrease to as few as fifteen to twelve layers or may disappear entirely. With this loss of glycogen-bearing cell layers, the available carbohydrate released by physiologic desquamation into the vaginal secretion and ultimately converted into lactic acid is proportionately decreased.

Floraquin not only provides an effective trichomonacide (Diodoquin®), destructive to pathogenic organisms, but furnishes lactose, dextrose and boric acid for the reestablishment of the normal vaginal acidity and regrowth of the normal protective flora. G. D. Searle & Co., Research in the Service of Medicine.

ONE Ointment
FOR ALL usual topical bacterial infections

'NEOSPORIN'®
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ANTIBIOTIC OINTMENT

Streptococci

Staphylococci

Clostridia

Corynebacteria

Spirochetes

Neisseria

Mycobacteria

Escherichia sp.

Aerobacter sp.

Klebsiellae

Hemophili

Proteus sp.

Pseudomonas sp.

'Aerosporin'®
(Polymyxin B) Sulfate*
for *Ps. aeruginosa* and other gram-negative bacilli,

Bacitracin
for *Streptococci, Staphylococci* and other gram-positive organisms,

Neomycin
for *Pr. vulgaris* and other organisms, both gram-positive and gram-negative,

in a special petrolatum base.

Tubes of ½ oz. with applicator tip.

*U. S. Patent No. 2,565,057

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe 7, N. Y.

—Concluded from page 17a

Your Child's Brightest Question

A patient of mine, a young lad of 6 years of age, had a T & A and circumcision performed, the latter of which he was not previously informed of. I went to the hospital to visit him one afternoon, and found the nurse laughing uproariously. Upon inquiry, she repated the following:

She had just stopped in to see this young patient of mine to find out why he was crying, and whether or not his throat hurt, to which he replied, "No, my throat doesn't hurt very much, but I can't understand why I should hurt down here when I had my tonsils taken out!"

M. J. R., M.D.
Miami, Fla.

Frenetic Flusher

Some deteriorated mental cases, like many little children, have a strong affinity for washrooms, cuspidors, wastebaskets, and the like.

On our closed and screened ward, the toilet rolls were vanishing at an astounding rate. There being no diarrhea cases at the time, we were rather embarrassed when making larger supply requests.

After some weeks, the culprit was apprehended in the act of liquidating the "rolls of film" as he chose to call them. It was on some of his "nite rounds" that his obsession would blossom forth and make him go through his routine.

We finally found him standing balanced over a toilet bowl with a string of rolls on a broom handle. With one foot on the controls of the continuously flushing toilet he would go into hysterics as the torrent sucked out and unwound his rolls, one at a time.

E. A. H., M.D.
Bellflower, Cal.

Disrobed

During my Internship in Jacksonville, Florida, I was conducting O.B. clinic when a patient came in. There was the usual routine checkup; and then I asked her, "Have you had any pains?"

"What did you say, Doctor?" she asked.

"I said, do you have any pains?"

"Well, I wore some to the Hospital, but the nurse made me take them off in the other room."

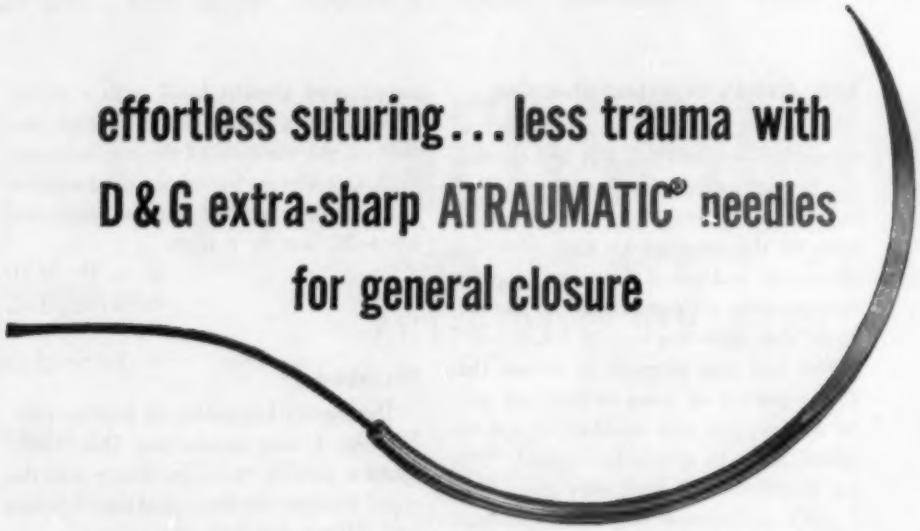
J. B., M.D.
Gadsden, Alabama

Expert

On showing the wet pelvimetry X-ray films to the expectant mother and soon-to-be grandmother—the latter became very indignant and terrifically upset because I could not tell her the child's sex even though I stressed the fact that only the skeletal structures were visible. Her daughter saved my day when she said, "The Doctor can't tell Mama, you see there's no bone in it yet."

S. S. J., M.D.
Bakersfield, Calif.

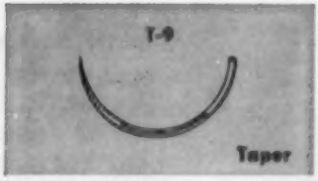
effortless suturing... less trauma with D & G extra-sharp ATRAUMATIC® needles for general closure

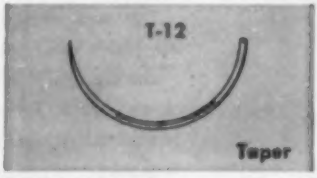


C-10, *three and one-half times enlarged*

Did you know that these 9 temper-tested, hand-finished D & G Atraumatic needles are combined with a *variety* of suture materials? More and more surgeons use them for general closure and ob.-gyn. surgery because there is a fresh, sharp needle for each situation, no tug to clear the needle, less injury to tissues. Important, too—no threading, no dropped needles.

Study the needles illustrated here and ask your suture nurse for your selections. D & G Atraumatic needle-sutures simplify inventory and save nurses' time.





Atraumatic needles replace these eyed needles

Use ½ Circle Taper Point instead of: Mayo Catgut; Mayo Intestinal; Murphy Intestinal; Ferguson; Kelly. *Use ½ Circle Cutting or Trocar Point in place of:* Regular Surgeons; Fistula; Mayo Trocar; Martin's Uterine.

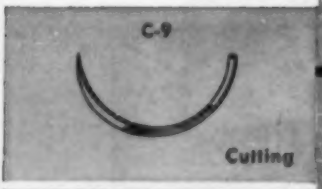
general closure sutures

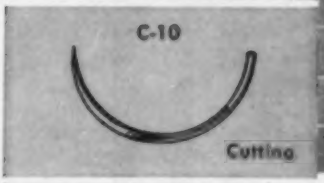
D & G "TIMED-ABSORPTION" SURGICAL GUT NON-BOILABLE:

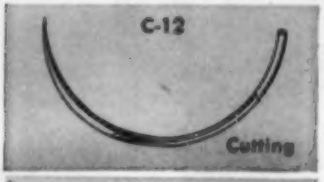
No.	Type	Length	Needle	Sizes
1509	A, Plain	27"	T-9	00 to 1
1546	C, Med. Chromic	27"	T-9	000 to 2
1508	A, Plain	27"	T-12	00 to 1
1548	C, Med. Chromic	27"	T-12	000 to 2
1561	C, Med. Chromic	27"	T-18	000 to 1
1563	C, Med. Chromic	27"	T-19	00 to 1
1547	C, Med. Chromic	27"	C-9	000 to 2
687	C, Med. Chromic	27"	C-10	000 to 2
689	D, Extra Chromic	27"	C-10	00
685	D, Extra Chromic	27"	C-12	0 to 2
693	C, Med. Chromic	27"	R-1	00 to 1
691	D, Extra Chromic	27"	R-1	00, 0

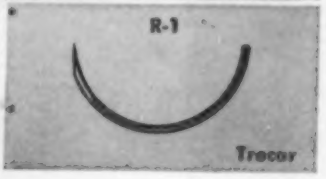
ANACAP® SILK:

No.	Material	Length	Needle	Sizes
1378	Black Braided Silk	30"	C-9	000 to 1
1379	Black Braided Silk	30"	T-9	000 to 1
1380	Black Braided Silk	30"	CS-1	000, 00, 0
1397	Black Braided Silk	30"	T-12	000 to 2









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Request films from D & G Surgical Film Library.
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mineral-vitamin protection
during **PREGNANCY**
and **LACTATION**

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PRECALCIN®

CAPSULES

organic and inorganic calcium, phosphorus, iron, and essential vitamins

small, easy-to-take capsules

just one capsule t.i.d.

dry fill, no fish oil

exceptional tolerance and patient-appeal

bottles of 100, 500, 1000 —all economically priced

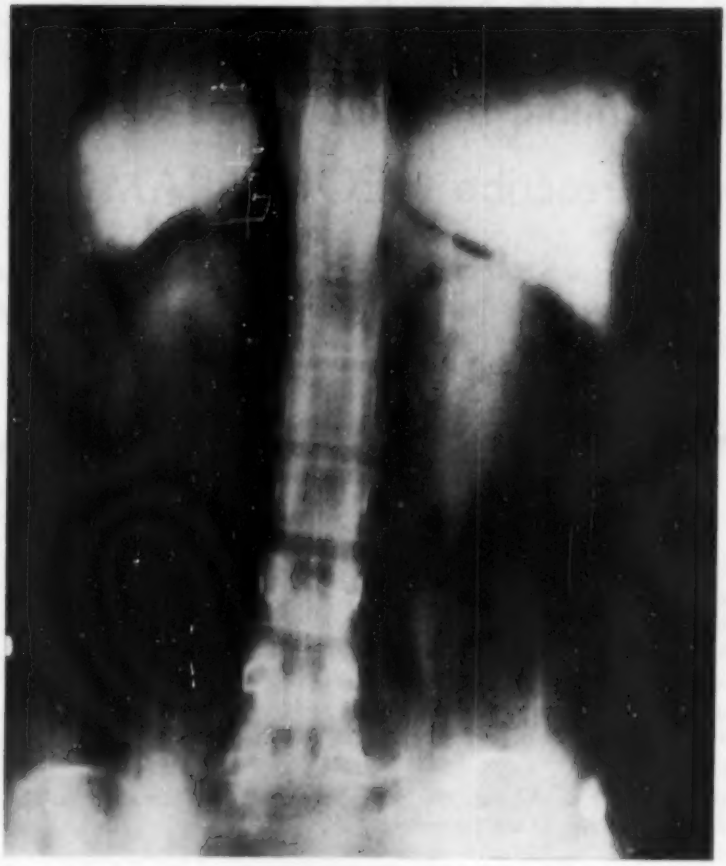
WALKER LABORATORIES, INC.
MOUNT VERNON, NEW YORK

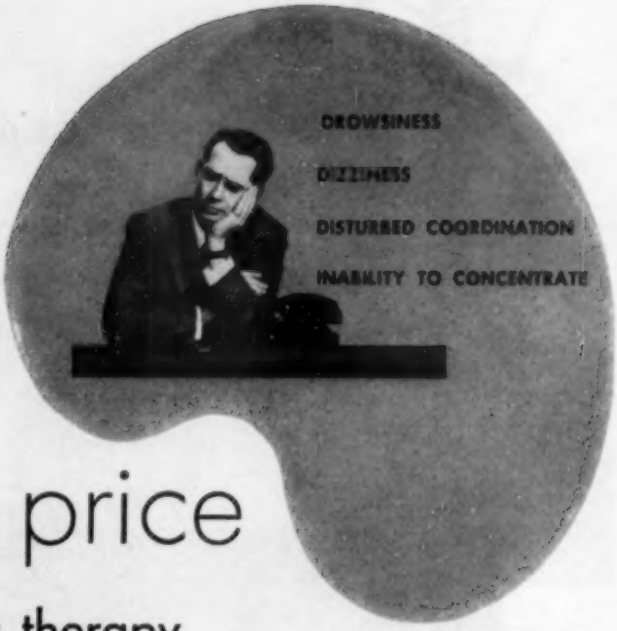
Diagnosis, Please!

WHICH IS *YOUR* DIAGNOSIS?

1. Kidney tumor
2. Polycystic kidneys
3. Adrenal disease
4. Retroperitoneal sarcoma
5. Pancreatic tumor
6. Normal kidneys

(ANSWER ON PAGE 74a)





patients seldom pay this price

for antihistaminic therapy when you prescribe NEOHETRAMINE

The outstanding advantages of NEOHETRAMINE are that it is *effective* and provides less sedation than most other antihistaminic agents. For the patient in school, at the office, driving a vehicle, or in the factory — whenever alertness is essential — an antihistaminic of choice is

NEOHETRAMINE®

HYDROCHLORIDE
BRAND OF THONZYLAMINE HYDROCHLORIDE

Dosage: Adults, 50 to 100 mg., two to four times daily. Children, 25 mg., two to four times daily.

Some patients will require larger dosage. Because of the wide margin of safety of Neohetramine, dosage may be gradually and cautiously increased until a therapeutic effect is obtained or side effects appear. In the great majority of cases, the therapeutic dosage will not cause uncomfortable side effects.

Supplied: In tablets of 25 mg., 50 mg., 100 mg., in bottles of 100, and 1,000. Syrup, 25 mg. per teaspoonful (4 cc.) in pints and gallons. Cream, 2%, in one ounce tubes.

pleasant-tasting
NEOHETRAMINE SYRUP
is excellent for children,
alone or as a vehicle for
other medication

NEPERA CHEMICAL CO., INC. • Pharmaceutical Manufacturers • Yonkers 2, N. Y.

gentia·jel

ONLY gentian violet treatment you can prescribe

IN SINGLE-DOSE APPLICATORS

for

antibiotic moniliasis[1]

diabetic vulvitis[2]

vaginal thrush[3]

pregnancy moniliasis

93% **clinically effective**[4] in the most resistant cases during the last trimester of pregnancy

1. Editorial: J.A.M.A. 149:763 (June 21) 1952. 2. Bernstine, J.B. and Rakoff, A.D. "Vaginal Infections, Infestations, and Discharges," the Blakiston Co., Inc., 1953, p. 271. 3. Combined Textbook of Obstetrics and Gynecology, Edited by Dugald Baird, 5th Ed., E. & S. Livingstone Ltd., 1950. 4. Waters, E.G. and Wager, H.P.: American Jour. of Obstetrics & Gynecology, 60:885, 1950.

AVAILABILITY: *gentia·jel* 12 single-dose plastic disposable applicators on prescription only.

SAMPLES ON REQUEST

Westwood Pharmaceuticals · 468 Dewitt Street, Buffalo 13, N. Y.

DIVISION OF FOSTER-MILBURN CO

mephosal®

mephenesin "solubilized" by sodium salicylate

more pain-free, spasm-free *comfort-in-motion* in **rheumatic disorders**

PHOTO: DU-PONT - BETTER LIVING

IMPORTANT—now 3 convenient dosage forms.

as a general rheumatic analgesic

MEPHOSAL CAPSULES—Each, mephenesin 250 mg. and sodium salicylate 250 mg. Dose: 1 or 2 capsules.

for rheumatic conditions associated with gastro-intestinal disturbances

MEPHOSAL TABLETS c HMB—Each contains mephenesin 125 mg., sodium salicylate 125 mg., and homatropine methylbromide 1.25 mg. Dose: 2 or 3 tablets.

MEPHOSAL ELIXIR c HMB—Each teaspoonful (4 cc.), mephenesin 400 mg., sodium salicylate 400 mg., and homatropine methylbromide 2.5 mg. Dose: 1 teaspoonful.

Prescribe dosage suggested every 3 or 4 hours, either after meals or with a little milk.

Relief from rheumatic pain and spasm is *more predictable* with **MEPHOSAL** (capsules, tablets and elixir), because its safe skeletal-muscle relaxant, mephenesin, is made *freely soluble*... more readily available...* by the essential analgesic, sodium salicylate.

More patients will get greater relief, faster, with **MEPHOSAL**, than with mephenesin or sodium salicylate alone.

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CROOKES LABORATORIES, INC. Crookes MINEOLA, N. Y.

*Patent applied for

Therapeutic Preparations for the Medical Profession

Coroner's Corner

A Not-So-Perfect Crime

On 9 January, 1953, the charred remains of an adult male were found (by a neighbor) in the dead man's house in a secluded rural district. The neighbor had called to find out why the deceased had not been to the general store for supplies during the previous week. Part of the torso was found next to a large hole in the floor; the rest was found in the basement right under the hole. Since no sign of accident or suicide was evident, the coroner's jury returned a verdict of homicide and arson.

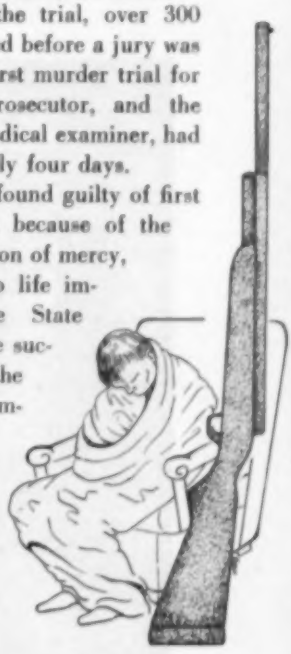
The remains were sent to the State Criminal Laboratory where an autopsy was performed. Practically all the soft parts were charred, with the exception of the right hand and parts of a few viscera. Enough of the left lung, heart, and intestines remained for x-ray examination, which revealed multiple shot gun pellets.

The crime was reconstructed as follows: The victim was shot to death; his body was placed in a chair, wrapped in blankets, soaked with gasoline, and set afire. Probably the murderer's intention was to burn the house down also, and thus conceal the crime.

The suspected killer was a local man with a mental age of twelve, whom neighbors had seen hunting in the vicinity around 2 January, the presumed date of the crime. He was apprehended about 150 miles from the scene of the murder. When confronted with the available evidence, he readily confessed to the crime, and admitted that a large sum of money in the victim's house had been the motive. He also stated that he had tried again three days after the murder to set the house afire, but had again been unsuccessful. Upon arraignment, a plea of guilty by reason of insanity was entered by the killer.

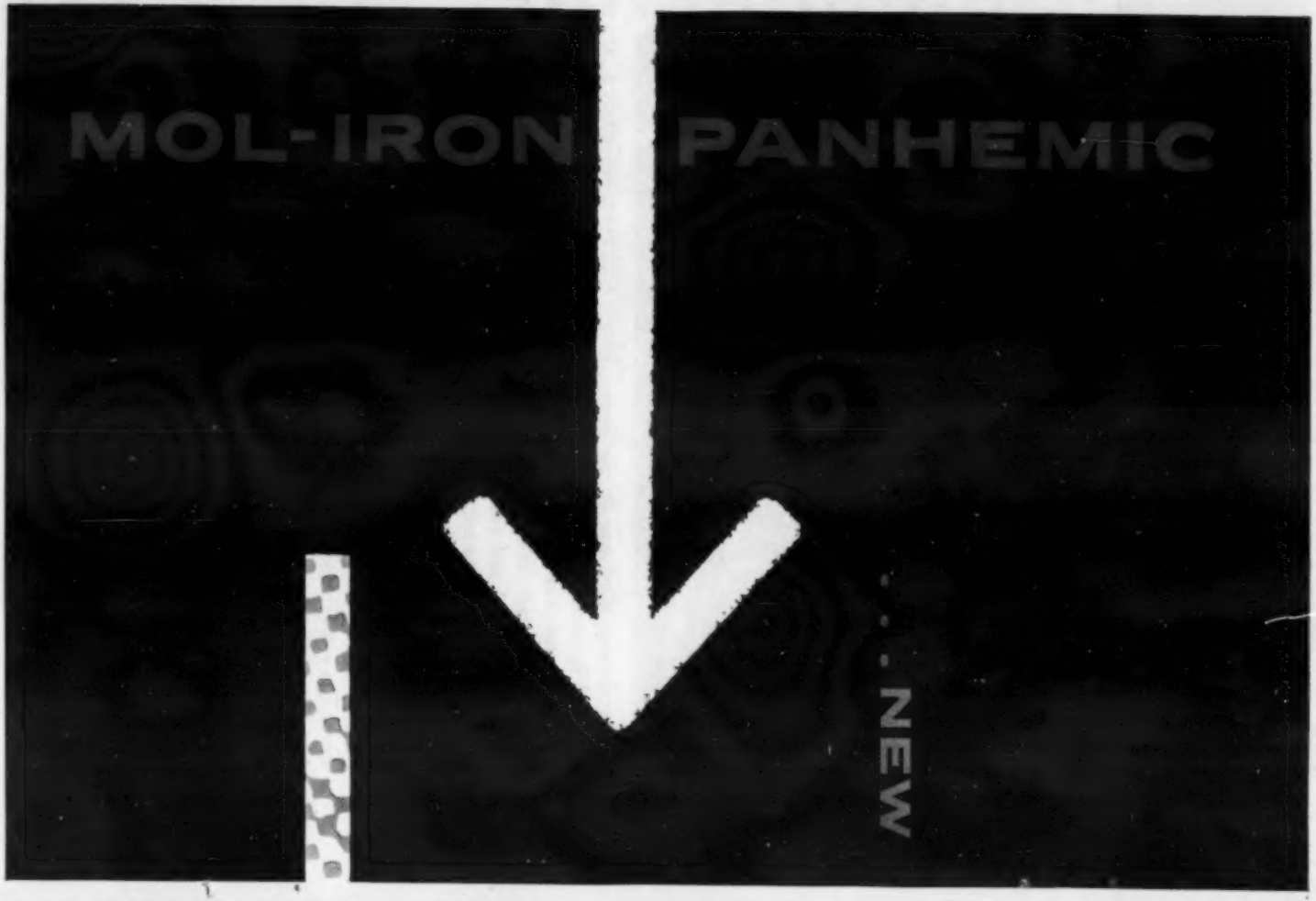
At the time of the trial, over 300 people were examined before a jury was picked. It was the first murder trial for the Sheriff, the Prosecutor, and the Judge, and I, the medical examiner, had been in office for only four days.

The accused was found guilty of first degree murder, but because of the jury's recommendation of mercy, he was sentenced to life imprisonment in the State Penitentiary. Had he succeeded in burning the house down and completely destroying the evidence, he might well have escaped unpunished.



E.H.W., D.O.
Woodsfield, Ohio

(Case history from Liangs, Monroe County, Ohio)


MOL-IRON
PANHEMIC
NEW

the Vitamin B_{12} with Intrinsic Factor Concentrate

content of **MOL-IRON PANHEMIC** *conforms with*

U.S.P. standards of therapeutic efficacy

and its anti-anemia potency is expressed

*in terms of U.S.P. Oral Units**

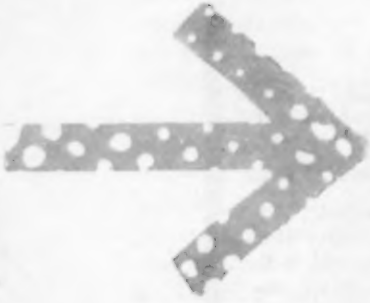
MOL-IRON PANHEMIC

with clinically assayed B_{12} activator

only 2 capsules provide 1 U.S.P. Oral Unit* of anti-anemia activity

Standardization by clinical assay is the only method of accurately determining anti-anemia potency. The weight of Intrinsic Factor Concentrate is by no means a measure of its efficacy in activating Vitamin B_{12}.

The usual daily dose of only *2 Mol-Iron Panhemic* capsules (1 b.i.d.) contains therapeutic quantities of all clinically essential blood-building elements and is effective for all anemias amenable to oral therapy.



Mol-Iron	
Ferrous Sulfate	**1 Gm.**
Molybdenum Oxide	**15.4 mg.**
Vitamin B_{12} with Intrinsic Factor Concentrate	**1 U.S.P. Oral Unit***
Folic Acid	**2.5 mg.**
Ascorbic Acid	**150 mg.**

*One U.S.P. Oral Unit represents the minimal amount of the therapeutic agent (Vitamin B_{12} with Intrinsic Factor Concentrate) which, when administered orally each day to a patient with pernicious anemia in relapse, produces a satisfactory reticulocyte response and subsequent relief of both anemia and symptoms. Potency established by clinical assay prior to mixture with other ingredients.

Supplied: bottles of 60 (one month's supply) and 500 capsules. White Laboratories, Inc., Kenilworth, N. J.

when nausea and vomiting bring a plea for help . . .

suggest first aid with . . .

EMETROL®

PHOSPHORATED CARBOHYDRATE SOLUTION

a safe, pleasant-tasting, oral antiemetic . . .

effective in 6 out of 7 cases of functional vomiting[1] . . . reduces gastrointestinal smooth muscle contractions physiologically . . . contains no antihistaminics, barbiturates, or other drugs . . . also useful in nausea of pregnancy, and for drug- or anesthetic-induced vomiting

1. Bradley, J. E., et al.: J. Pediat. 38:41, 1951; Idem: Amer. Acad. Pediat., meeting Oct. 16, 1951.

IMPORTANT: EMETROL is stabilized at an optimal physiologic pH level. Dilution would upset this careful balance. For this reason, EMETROL is always taken straight, and no fluids of any kind are allowed for at least 15 minutes after administration.

Supplied: In bottles of 3 fl.oz. and 16 fl. oz., at pharmacies everywhere

Kinney

write for complete literature

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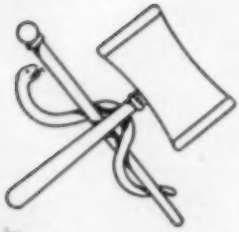

What's Your Verdict?

Edited by Ann Picinich, Member of the Bar of New Jersey

Plaintiff consulted defendant, a physician, who after an examination advised x-ray therapy treatments. As a result of these treatments, plaintiff's skin became inflammed, blistered and sore. Upon making inquiry of the physician, plaintiff was informed that his condition was a mere incident of x-ray treatment having no serious or permanent effects. Plaintiff relied upon the representations of his doctor and refrained from instituting suit until in time he became aware of the full extent of his injury. A complaint is now filed against defendant for his alleged negligence.

The statute of limitations in Tennessee provides that actions for personal injury must be brought within one year after the cause of action accrues. As more than a year has elapsed between the time of the injury and the commencement of the action, the question arises as to whether plaintiff's action is now barred by the statute.

It is plaintiff's contention that the running of the statue of limitations was supended by reason of defendant's fraud: that misrepresentations were made with respect to the injury, and amounted to a fraudulent concealment of his cause of action. The statute should not then begin to operate against plaintiff until he discovers the true state of facts.

Defendant argues that the injury was immediately apparent to plaintiff, and that if he failed to discover its serious effects within the statutory period it was his own fault. A plaintiff cannot excuse his delay in instituting suit because of fraud if his failure to discover his cause of action is attributable to his own

—Concluded on page 115a

NEW-LULLAMIN DROPS

Non-Barbiturate Sedative For Pediatric Use

To Combat Irritability and Sleeplessness in Infants and Children

SAFE Lullamin Drops are free of bromides, barbiturates and narcotics—are not habit forming. Clinical experience with children reveals no undesirable side effects.

EFFECTIVE Clinical Tests show Lullamin Drops effective in establishing better sleep habits and in combating daytime irritability and restlessness.

NEW Lullamin Drops are new . . . and specially compounded and flavored to appeal to children of all ages. Ethically promoted and available only on prescription.

Write for samples and literature today.

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JERSEY CITY 6, N.J.

Rx LULLamin to LULL the restless child.

FORMULA: Each cc. contains
Diphenhydramine Hydrochloride
0.6% 8.1 ..... 14.0 mg.
in a pleasantly flavored syrup containing 0.2% alcohol

DOSAGE:

Under 1 yr. 0.2-0.4 cc. (5-10 drops)
1 to 6 yrs. 0.6 cc. (15 drops)
6 to 12 yrs. 0.8 cc. (20 drops)
Over 12 yrs. 1.2 cc. (30 drops)

FOR DAYTIME SEDATION:

TO AID IN INDUCING SLEEP:

ISSUED: 30 cc. bottles
with calibrated dropper.

R&C

2 two-way control of hay fever

1. shorter and safer desensitization procedures with

CHLOR-*TRIMETON* Injection 100 mg./cc.

(in same syringe with allergenic extract)

2. relieve symptoms—all day (or all night*) relief with just one

CHLOR-*TRIMETON* REPETAB (8 mg.)

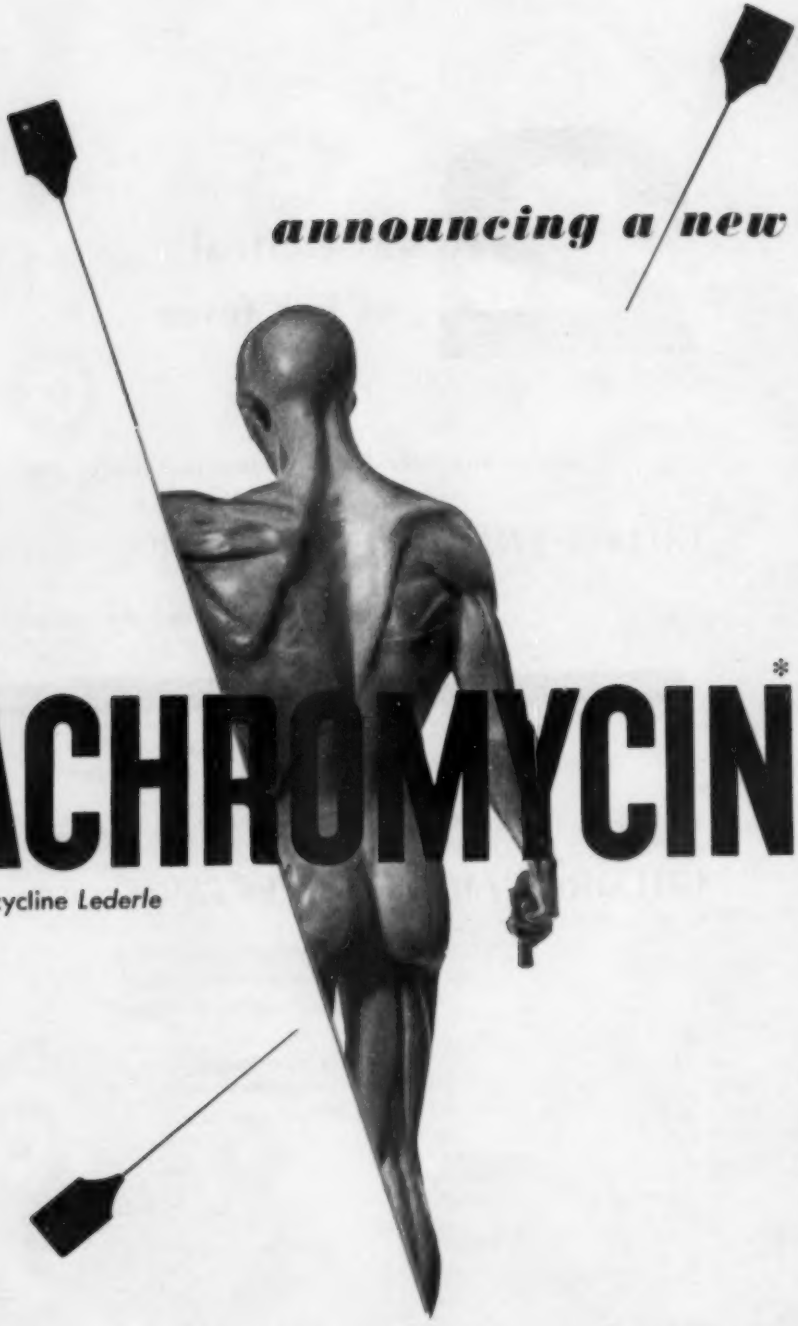
*If sleep is a problem, prescribe CHLOR-*TRIMETON* REPETABS with Sodium Pentobarbital (¾ gr.)

CHLOR-*TRIMETON*® Maleate, brand of chlorprophenpyridamine maleate.
REPETABS,® repeat action tablets

Schering

CHLOR-TRIMETON

announcing a new



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Tetracycline *Lederle*

therapeutic advance

At last, the many advantages of intramuscular administration of a broad-spectrum antibiotic have been fully realized. ACHROMYCIN, since its recent introduction, has been notably effective in oral and intravenous dosage forms. Now, after clinical testing, it is definitely proved highly acceptable for intramuscular use.

INTRAMUSCULAR

IMMEDIATE absorption and diffusion
PROMPT CONTROL of infection
CONVENIENT for the physician
NO UNDUE DISCOMFORT for the patient.

This new intramuscular form widely increases the usefulness of ACHROMYCIN, the broad-spectrum antibiotic of choice.

ACHROMYCIN Intramuscular is available in vials of 100 mg.

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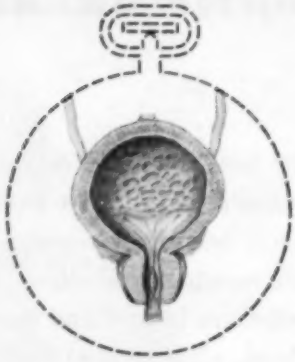
*REG. U. S. PAT. OFF.

LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY Pearl River, New York

FURADANTIN®

brand of nitrofurantoin, Eaton



works this fast

IN ACUTE AND CHRONIC URINARY INFECTIONS

IN 30 MINUTES: antibacterial concentrations in the urine

IN 3 TO 5 DAYS: complete clearing of pus cells from the urine

IN 7 DAYS: sterilization of the urine in the majority of cases

With Furadantin there is no proctitis, pruritus ani, or crystalluria.

Available for adults: 50 and 100 mg. tablets
for children: Pediatric Suspension, 5 mg. per cc.

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NORWICH, NEW YORK

BRONCHIAL AND CARDIAC ASTHMA

CONGESTIVE HEART FAILURE

PAROXYSMAL DYSPNEA

EDEMATOUS STATES

AMINODROX® - FORTE

Upjohn

For the many thousands of patients with essential hypertension, there is new hope for longer, happier lives. RESERPOID* (Upjohn brand of reserpine) is the active, pure alkaloid of Rauwolfia serpentina. In just 1/1000 mg., Reserpoid matches the potency of 1

*TRADEMARK

Upjohn

mg. of the whole root... Reserpoid carries non-hypnotic sedation and bradycardic action along with its principal antihypertensive effect. It is a persistently pleasant drug: usually even before the pressure falls, a sense of calm settles over the anx-

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ious and irritable hypertensive. Lowering of the pressure is gradual, which gives the patient a week or more to adjust to the new levels. Reserpoid acts centrally upon the autonomic nervous system. It is not a ganglionic blocking agent, does not induce

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postural hypotension . . . Reserpoid has no presently defined contraindications. It is ideal for the "average" case—that large group of mild and moderate hypertensives who have symptoms, but no demonstrable pathology. In severe hypertension with advancing vas-

Upjohn

cular damage, Reserpoid is valuable in augmenting and stabilizing the effects of other, more drastic drugs—making their smaller dosage possible. Reserpoid therapy is not encumbered by the difficulties of delicate titration. Just 1 mg. of Reserpoid daily, taken in

Upjohn

one to four doses, is the usual initial dosage. Later on, improvement may be maintained on considerably less—sometimes on as little as 0.1 mg. per day. Reserpoid is available in 0.1 mg. and 0.25 mg. scored tablets, in bottles of 100 and 500, at all ℞ pharmacies.

The Upjohn Company, Kalamazoo, Michigan

4 out of 5 former fatties . . .

gain it right back!

the *Am Plus*® **post-diet plan**

*for the 80% who fail to sustain weight loss after the diet**

Just one AM PLUS capsule daily, taken when hunger becomes excessive: before the day's "big" meal, before a club lunch or dinner, at snack time. The patient decides when.

A unique combination of dextro-amphetamine plus the original formula of 19 important vitamins and minerals, AM PLUS rehabilitates post-dieting habits while it augments nutritional intake.

536 Lake Shore Drive, Chicago 11, Illinois

*Aaron, H.: *Weight Control*, Consumer Reports 17:100 (Feb.) 1952.

Roznis Rx

LETTERS

TO THE EDITOR

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers, who are invited to comment on controversial subjects, names will be omitted when requested.

Clinics Get into One's Blood

The mere possession of a graduate degree does not insure success to any person. Nor does an M. D. degree make a man learned. A country doctor can get mightily rusty even if he cares for the woes of mankind in his own home town.

Of course, a doctor can be an avid reader of medical literature. Such a physician can put into practice the many discussed phases of modern therapeutics quite successfully. Moreover, his success need not be measured in dollars and cents.

There are, indeed, many doctors, along with the public, who measure a physician's worth to the community by the size of his practice. But a huge following does not decide success. True success is based upon executing that which the doctor can do to the best of his ability.

Above all, the physician must not allow himself to stagnate mentally. The

—Concluded on page 52a

An important agent in internal medicine

Serpiloid®

THE RIKER BRAND OF RESERPINE

- Allays agitation and apprehension (nonsoporific sedation)
- In the majority of hypertensives, Serpiloid lowers tension, tranquilizes, relieves associated symptoms
- In the normotensive, it does not lower blood pressure significantly
- No contraindications
- For long-term use, virtually free from side actions
- Simple dosage . . . One tablet (0.25 mg.) t.i.d.

Clinical samples on request.

Riker LABORATORIES, INC.
LOS ANGELES 49, CALIF.


SELSUN®
Sulfide Suspension* completely controls
92 to 95 per cent of common dandruff cases, 81 to 87
percent of all seborrheic dermatitis cases.
SELSUN
. . keeps the scalp free of scales for one to four weeks—relieves
itching and burning after only two or three applications.
SELSUN
. . is simple, pleasant to use. Applied and rinsed out while wash-
ing hair, leaves hair and scalp clean—with no objectionable odor.
SELSUN
. . is ethically promoted, dispensed in 4-fluidounce bottles
on prescription only.
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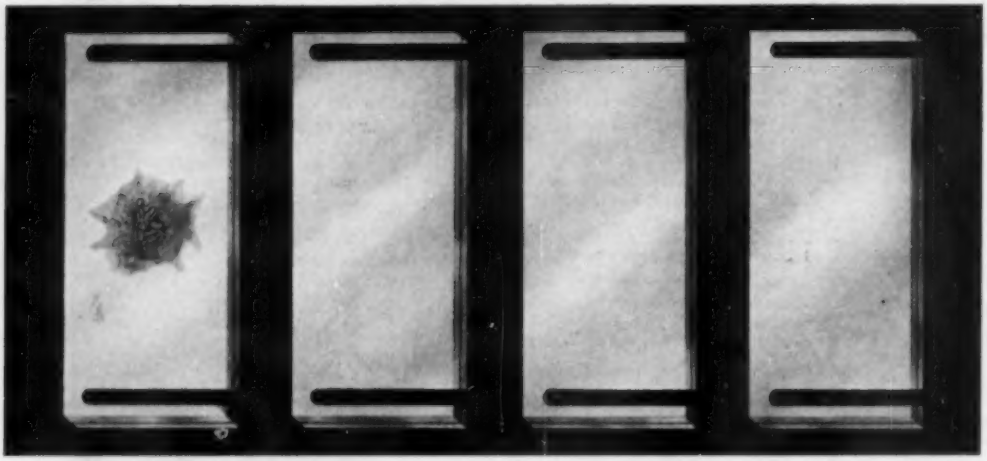
HERE'S WHY

1 of 4 pregnant women needs MILIBIS®

VAGINAL SUPPOSITORIES



Approximately one fourth of all gravid women harbor Monilia and tend to incur active vaginal infection during pregnancy. Especially those patients are prone to develop moniliasis who are diabetic or have received antibiotic therapy.

Milibis Vaginal Suppositories, in a gelatin-glycerin base, are a well tolerated and effective therapeutic agent in cases of vaginal moniliasis. A recognized amebicide of proved potency,* Milibis is relatively stable and insoluble, and is therefore fully effective at the site of infection. Because it is not absorbed systemically, the hazard of sensitization or toxicity is minimized. Highly effective against Monilia, Trichomonas and vaginal bacteria (nongonococcus), Milibis promotes the restoration of normal vaginal flora without risk of fetal damage or interruption of pregnancy.

Regimen: A Milibis suppository should be inserted in the vagina on alternate nights for a series of from five to ten administrations. Acid douches (2 ounces of white vinegar or 5 per cent acetic acid or 2 teaspoonfuls boric acid powder in 2 quarts of water) may be recommended in conjunction with Milibis therapy. In especially refractory cases, course of treatment may be expanded, or alternate regimen of 2 suppositories daily may be instituted for two weeks.

Supplied in boxes of 5, each suppository containing 0.25 Gm. Milibis in a gelatin-glycerin base.

WINTHROP **Winthrop-Stearns Inc.** New York 18, N. Y. Windsor, Ont.

Milibis, trademark reg. U. S. Pat. Off., brand of glycobiarsol

*Council on Pharmacy and Chemistry, American Medical Association: New and Nonofficial Remedies. Philadelphia, J. B. Lippincott Company, 1953, p. 158.

in times of "STRAIN *and* STRESS"

STRESSCAPS*

Stress Formula Vitamins Lederle

When the body is subjected to unusual physiologic stress, the need for dietary supplementation with *all* the essential vitamins is at its greatest. Such need arises:

After sustaining fractures and other serious trauma.
When there has been serious vitamin depletion.
After sustaining second or third degree burns.
In severe illness. In postoperative states.

STRESSCAPS incorporate the complete formula recommended by the National Research Council of the National Academy of Science** for use in acutely ill or injured persons, plus therapeutic amounts of Vitamin K.

*Trade-Mark

**"Therapeutic Nutrition," 1952

LEDERLE LABORATORIES DIVISION Lederle AMERICAN Cyanamid COMPANY

PEARL RIVER, NEW YORK

LETTERS TO THE EDITOR

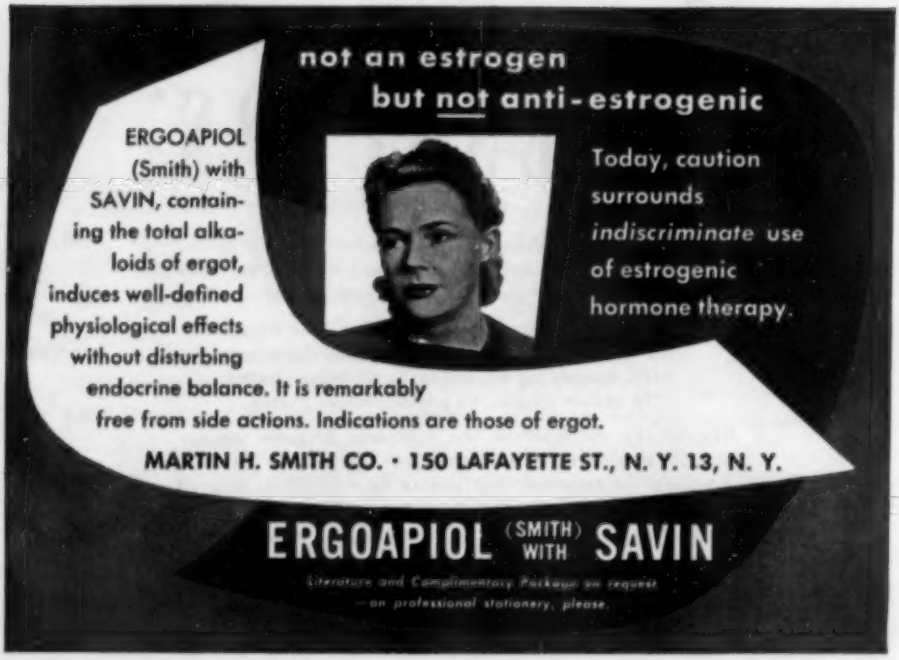
—Concluded from page 47a

Universities, with their clinics of seething, wretched mankind, and their musty smell amidst the pungent odors of medicaments, leave an unforgettable mark upon the minds of many embryo doctors. Graduation does little to erase these unforgettable experiences which every medical student has felt. Hence, at intervals, the older practicing physician finds himself impelled to revisit these clinics.

And so this refreshening is in most metropolitan areas, whether they be Chicago, New York, or Los Angeles. For the many collections of diseased mankind exert their challenge to any physician who has contributed his own sweat along with his zeal while he attended the sick in these dispensaries.

As animals show physiological cycles which accompany the process of living, mating, and dying, so, too, does the eager doctor return to his exciting role of succoring the sick in these havens for the ill and maimed And there the doctor breathes in the rancid, foul-smelling air of the clinic with much gusto. For this bustle and near-pandemonium has placed its mark upon him. Its memory will haunt him to the end of his days. . . . Its usefulness as respects refresher study will serve him from time to time throughout his career.

Wallace Marshall, M.D.
Two Rivers, Wisconsin



the only

Therapeutic Formula

multivitamin tablet

this Small . . . . . .

this Potent . . . . . .

Vitamin A (synthetic)	25,000 U.S.P. units
Vitamin D	1000 U.S.P. units
Thiamine Mononitrate	10 mg.
Riboflavin	5 mg.
Nicotinamide	150 mg.
Vitamin B_{12}	6 mcg.
Ascorbic Acid	150 mg.

this Pleasing . . . . . .

A solid tablet: no fish-oil taste, odor, burp or allergies.

OPTILETS

(Abbott's Therapeutic Formula Multivitamins)

Abbott

407160

If you could "take apart" a droplet of *KONDREMUL* mineral oil emulsion...

...you would find it *different because*

each microscopic oil globule is encased in a tough, indigestible film of Irish moss for perfect emulsification and complete mixing with the stool.

KONDREMUL® PLAIN

COLLOIDAL EMULSION OF MINERAL OIL AND IRISH MOSS

for chronic constipation

KONDREMUL *Plain*—containing 55% mineral oil, bottles of 1 pt.

Also available: KONDREMUL *With Cascara* (0.66 Gm. per tablespoon), bottles of 14 fl. oz.; KONDREMUL *With Phenolphthalein* (0.13 Gm. per tablespoon), bottles of 1 pt.

highly penetrant... highly demulcent... highly palatable—no danger of oil leakage or interference with absorption of nutrients when taken as directed

THE E. L. PATCH COMPANY
STONEHAM, MASSACHUSETTS

new exclusive

Anti-inflammatory and anti-infective management of dermatologic conditions

Cortril

brand of hydrocortisone

topical ointment

with Terramycin®

brand of oxytetracycline

hydrochloride

because local anti-infective action is so often essential in combating superimposed secondary infection . . .

because anti-inflammatory action is so often essential for rapid symptomatic relief during anti-infective therapy . . .

This exclusive product contains the most consistently effective, anti-inflammatory hormone, CORTRIL—with the widely accepted, broad-spectrum antibiotic, TERRAMYCIN—in an elegant, easily applied ointment base.

supplied: ½-oz. tubes; 10 mg. CORTRIL (hydrocortisone) and 30 mg. TERRAMYCIN (oxytetracycline hydrochloride) per Gm.

Pfizer

PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc.
Brooklyn 6, New York

MODERN MEDICINALS

These brief resumes of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Ambrol, The E. L. Patch Company, Stoneham 80, Mass. Each yellow-uncoated tablet contains: secobarbital ¾ gr. (50 mg.) phenobarbital ¾ gr. (50 mg.) *Warning: May be habit forming. Acetylsalicylic acid 3 grs. (195 mg.), thiamine hydrochloride 5 mg. Used in symptomatic treatment of headaches, neureglias, sciatica, dysmenorrhea, insomnia, anxiety states, hyperexcitability, cardiac and gastric neuroses, hysteria, as a preanesthetic and preoperative sedative, as a sedative and hypnotic, used primarily to ensure nightlong refreshing sleep especially for those who have difficulty in falling asleep or who sleep fitfully. **Dose:** Average adult dose, one tablet on retiring. For daytime sedation one-half to one tablet as directed by the physician. **Sup:** In bottles of 100 tablets.

Artamide, Wampole Laboratories, Philadelphia, Pa. Each white, coated tablet contains 0.25 Gm. salicylamide, 0.25 Gm. PABA, 20.0 mg. ascorbic acid, and 10.0 mg. 'Organidin'. A new preparation for maintenance of high salicylate blood levels . . . non-irritating to the gastric mucosa and free from sodium and potassium. Indicated especially for rheumatoid arthritis, rheumatic fever, osteoarthritis, fibrositis, gout. Analgesic power is provided by salicylamide; para-aminobenzoic acid, and Organidin (Wampole's organic iodine) complete the formula. **Dose:** 2 tablets three or four times daily; in acute rheumatic fever, the dosage may be increased to two tablets hourly. **Sup:** In bottles of 100 and 500 tablets.

—Continued on page 62a

"THIOSULFIL"

eliminates the need for forcing fluids

"THIOSULFIL"

makes alkalinization unnecessary

"THIOSULFIL"

greatly minimizes risk of sensitization

"THIOSULFIL"

drastically reduces likelihood of toxic side effects

"THIOSULFIL"

quickly provides effective bacteriostatic concentrations at the site of infection

"THIOSULFIL"®

Brand of sulfamethylthiadiazole

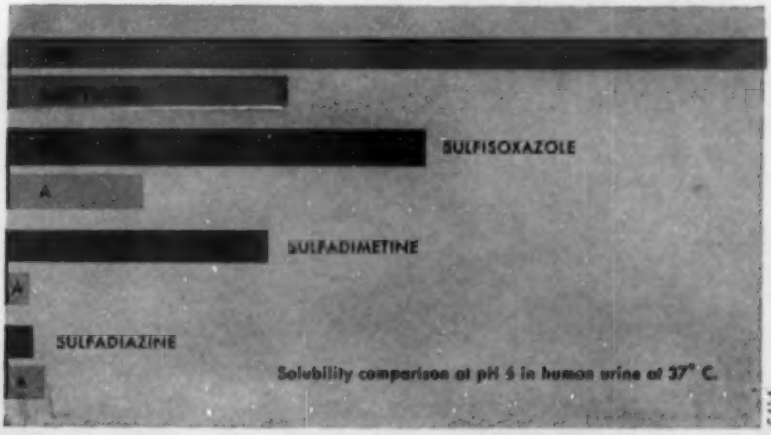
The safest and most effective sulfonamide yet presented for

URINARY TRACT INFECTIONS

TABLETS — No. 785–0.25 Gm. per tablet (scored)
Bottles of 100 and 1,000

No. 914–0.25 Gm. per cc. — **SUSPENSION**
Bottles of 4 and 16 fluidounces

Note in chart below solubility of "Thiosulfil" when compared with the other three most frequently prescribed sulfonamides in urinary tract infections. Greater solubility means rapid action with minimum toxicity.



New York, N. Y.

Ayerst

Montreal, Canada

in hypertension...

Rauwiloid®

Serves Better

So Easy, too...

merely two 2 mg. tablets
at bedtime!

The ORIGINAL alseroxylon fraction of Rauwolfia

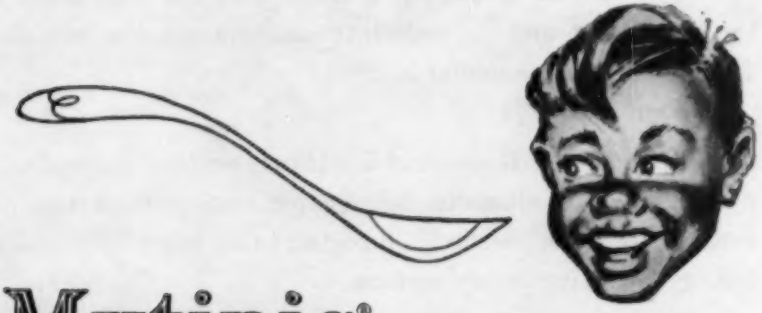
Because... Rauwiloid is freed from the inert dross of the whole root and its undesirable substances (for instance, yohimbine-type alkaloids) . . .

Because... Rauwiloid contains, besides reserpine, a number of active alkaloids, for example, rescinnamine (recently isolated by Riker research), reported to be more hypotensive but less sedative than reserpine.

Because... Rauwiloid is fractionated only from true, unadulterated Rauwolfia serpentina, Benth., constant in potency and action.

Riker LABORATORIES, INC., LOS ANGELES 48, CALIF.

when "The proof of the pudding is in the . . ." **tasting**



Mytinic® liquid Palate-pleasing formulation

for comprehensive treatment of "secondary" anemia.

Each teaspoonful (5 cc.) provides:

Ferric ammonium citrate	110 mg.
Thiamine hydrochloride	1.7 mg.
Riboflavin	0.7 mg.
Niacinamide	17 mg.
Liver fraction 1, N.F.	170 mg.
Vitamin B_{12}	3 mcg.

Supplied in bottles of 12 fl. oz.

Bristol
LABORATORIES INC.
SYRACUSE, NEW YORK

Also in OBSTETRICS and GYNECOLOGY • PERINEAL SUTURING • HEMORRHOIDAL and OTHER RECTAL DISCOMFORTS

12 oz. Size
RECTALGAN AEROSOL
(Spray) DISPENSER
Physician's Price $4.00

Safe • Easier • Cleaner • More Efficient

Assures complete coverage of the site with this effective, quick acting, long lasting, pain relieving medication. Its use saves the valuable time of the nurse . . . gains patient cooperation and appreciation . . . assists materially in hastening recovery.

Formula:
Benzocaine 4.5%;
Carbolic Acid 1.75%;
Menthol 0.5%;
Ephedrine Alk., 0.125%–
Dissolved in Oils
(Mallon Process).

2 oz. Bottle
(with applicator)
Physician's Price $10.50 doz.

In Obstetrics and Gynecology
Combined Therapy Proves More Beneficial

PERINEALLY	RECTALLY
Spray Aerosol over area of pathology	Instill in rectal lumen, using Rectalgan with applicator

Literature sent on request

MALLON DIVISION OF DOHO CHEMICAL CORP.
100 Varick Street, New York 13, N. Y., U. S. A.
DOHO — *Makers of* AURALGAN — O-TOS-MO-SAN — RHINALGAN

STOCKED BY EVERY WHOLESALER

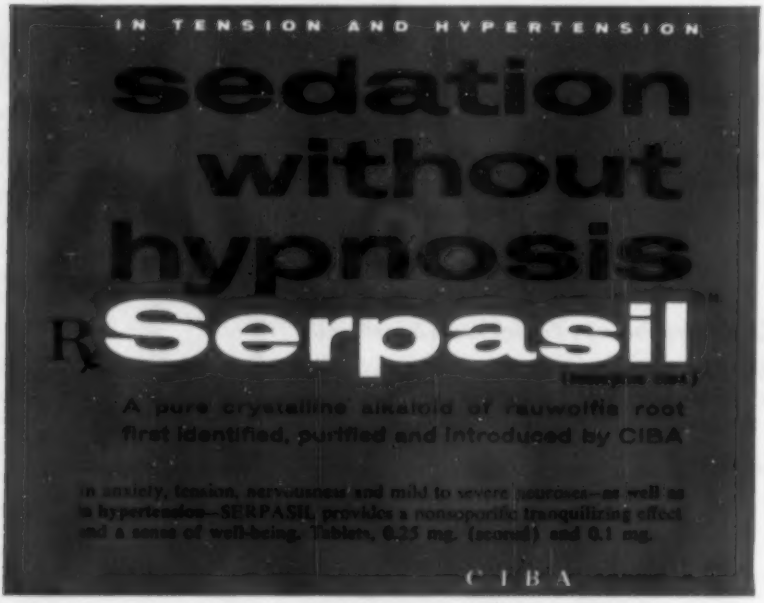
—Continued from page 56a

Crystoserpine, Smith-Dorsey, Lincoln, Neb. Reserpine, a single alkaloid derived from Rauwolfia serpentina, produces the hypotensive, sedative, and bradycrotic actions characteristic of the crude drug. A mild to moderate hypotensive agent, Crystoserpine suffices as the sole therapeutic agent in one-third to two-thirds of patients with essential hypertension seen in daily practice. In the remainder, it makes possible the use of a second, more potent hypotensive agent in reduced dosage, with consequent reduction in side actions. **Dose:** Each tablet contains 0.25 mg. of reserpine. Daily dosage ranges from 0.25 mg. to 1.0 mg. There are no known contraindications to its use. **Sup:** In bottles of 100, 500, and 1,000 tablets.

Donnagel, A. H. Robins Co., Inc., Richmond 20, Va. A comprehensive antidiarrheal, combining the Donnatal formula with Kaolin, pectin and dihydroxy aluminum aminoacetate in an exceptionally smooth and palatable suspension. Each 30 cc. (1 oz.) contains: hyoscyamine sulfate 0.1037 mg., atropine sulfate 0.0194 mg., hyoscine hydrobromide 0.0065 mg., phenobarbital (1/4 gr.) 16.2 mg., kaolin (90 gr.) 6.0 Gm., pectin (2 gr.) 130.0 mg., dihydroxy aluminum aminoacetate (7½ gr.) 0.5 Gm. In the treatment and alleviation of specific and non-specific diarrheas of organic or functional nature. Also effective in gastritis, enteritis, colitis and acute gastrointestinal upsets. **Dose:** adults: for diarrhea, 2 tablespoonfuls at once and 1 or 2 tablespoonfuls after each stool; for other conditions, 1 tablespoonful every 3 hours as necessary. Children, 2 teaspoonfuls at once and 1 or 2 teaspoonfuls thereafter as above. **Sup:** Pale green, aromatized suspension in 6-ounce amber bottles.

Hyadrine, G. D. Searle & Co., Chicago 80, Ill. Based on a new formula consisting of 37.5 mg. of diphenhydramine (Searle) 150 mg. of aminophyllin (Searle) and 25 mg. of racephedrine hydrochloride. For the relief of bronchial asthma, hay fever, and other allergic conditions. **Dose:** Recommended dosage for adults is 1 or 2 tablets three or four times a day. For children, 50-100 lbs. the dose is ½ to 1 tablet every four hours, for children weighing less than 50 lbs., the dose is reduced proportionately. **Sup:** In bottles of 100 and 1,000 scored tablets.

—Concluded on page 64a



invitation to asthma?

not necessarily . . .

Tedral, taken at the first sign of attack, often forestalls severe symptoms.

relief in minutes . . . Tedral brings symptomatic relief in a matter of minutes. Breathing becomes easier as Tedral relaxes smooth muscle, reduces tissue edema, provides mild sedation.

for 4 full hours . . . Tedral maintains more normal respiration for a sustained period—not just a momentary pause in the attack.

Tedral provides:

Theophylline	2 gr.
Ephedrine HCl	⅜ gr.
Phenobarbital	⅛ gr.

in boxes of 24, 120 and 1000 tablets

Tedral®

WARNER-CHILCOTT
Laboratories NEW YORK

—Concluded from page 62a

Ledercillin in Oil, Lederle Laboratories, Pearl River, N. Y. A new repository preparation of penicillin intended for deep intramuscular injection and permits the gradual release of penicillin in the tissues. Each cubic centimeter contains 300,000 units of penicillin G in sesame oil with 2% of aluminum monosterate added. For treatment of local or systemic infections caused by penicillin-sensitive organisms. **Dose:** As determined by physician. **Sup:** In 10 cc. vials.

Neo-Polycin, Pitman-Moore Co., Indianapolis 6, Ind. Combination of polymyxin, bacitracin, and neomycin, employed topically. May be used in all types of superficial skin infections, even when the causative organism is unknown. Neo-Polycin ophthalmic ointment is indicated in infectious disorders caused by bacteria sensitive to bacitracin, polymyxin, or neomycin. **Dose:** Neo-Polycin Ointment is spread thinly over the infected area with or without dressing. A single application daily suffices when the layer can be maintained. Otherwise, use 2 or 3 applications daily. Neo-Polycin Ophthalmic Ointment is applied to the conjunctival sac several times daily. **Sup:** Ointment in 15 Gm. tubes; Ophthalmic ointment in 1/8 oz. collapsible tubes.

Neosporin Antibiotic Ointment, Burroughs Wellcome & Co., Tuckahoe, N. Y. Each gram contains 'Aerosporin' sulfate polymyxin B sulfate 5000 units, bacitracin 400 units, neomycin sulfate 5 mgm. For the prevention and treatment of all topical bacterial infections. **Dose:** As determined by physician. **Sup:** In 1/2 ounce tube with applicator top.

Otobiotic, White's, White Laboratories, Inc., Kenilworth, N. J. Each cc. contains, neomycin sulfate 3.5 mg., sodium propionate, 50 mg. For Otitis externa and chronic otitis media. **Dose: Otitis externa;** several drops instilled into the affected canal 3 or 4 times daily. **Chronic otitis media:** partially fill external canal of affected ear. After several minutes allow excess solution to flow out. Repeat 3 or 4 times daily. **Sup:** In 15 cc. dropper bottles.

Polycycline Capsules, Bristol Laboratories, Syracuse, N. Y. Tetracycline hydrochloride. An improved broad-spectrum antibiotic. **Dose:** As determined by physician. **Sup:** In bottles of 25 (100 Mgm.) and in bottles of 16 (250 Mgm.).

Primoplex, Lederle Laboratories, Pearl River, N. Y. Each 2 cc. dose contains: thiamine HCl (B_1) 10 mg., riboflavin (B_2) 10 mg., sodium pantothenate 10 mg., niacinamide 50 mg., pyridoxine HCl (B_6) 5 mg., ascorbic acid (C) 200 mg., dl-methionine 50 mg., vitamin B_{12} activity equivalent to 2 mcgm. of cyanocobalamin 2 mcgm., cholin chloride 150 mg., folic acid 3 mg., inositol 20 mg. A new geriatric liver and vitamins preparation administered intramuscularly and is indicated for prevention and treatment of B complex deficiencies. It is a valuable adjunct in nutritional deficiencies of all ages and for pre-operative and post-operative supplementation. **Dose:** As determined by physician. **Sup:** In vials with 2 cc. ampuls of diluent.

Serpasil Apresoline Tablets, Ciba Pharmaceutical Products Inc., Summit, N. J. Each scored tablet contains 0.2 mgm. Serpasil and 50 mgm. Apresoline. A tranquilizer-antihypertensive combination. **Dose:** Average dose is 1/2 to 1 tablet 3 or 4 times daily. **Sup:** In bottles of 100.

Strontolac Capsules, Wyeth Laboratories, Philadelphia, Pa. Each capsule contains 192 mgm. strontium ion as 0.7 Gm. (11 grains) of strontium lactate trihydrate. To be used as an adjuvant to calcium for management of osteoporosis and for relief of pain in the aged due to this condition. **Dose:** Usual dosage is 3 capsules 3 times daily. **Sup:** In bottles of 100 capsules.

Tetracyn Topical Ointment, J. B. Roerig & Co., Chicago, Ill. Contains 30 mgm. of tetracycline hydrochloride per gram in a petrolatum base. For topical therapy due to the many Tetracyn-sensitive microorganisms. **Dose:** As determined by physician. **Sup:** in 1/2 ounce & 1 ounce tubes.

Twin-Barb Improved, B. F. Ascher & Co., Inc., Kansas City, Mo. Each blue, sugar-coated tablet contains in the outer shell, pentobarbital sodium 97 mg. (1 1/2 gr.) in the enteric-coated core, butabarbital 32 mg. (1/2 gr.). For prompt sedation, nightlong sleep and a good morning. The likelihood of "hangover" symptoms—lassitude, drowsiness, depression—is minimized by the controlled release of quick-acting pentobarbital and moderately long-lasting butabarbital from the twin-barb improved tablet. **Dose:** One tablet will usually induce six or eight hours of undisturbed sleep. **Sup:** In bottles of 100 and 500 tablets.

Daprisal*

relieves both aspects of pain

physical—because it provides the combined analgesic effect of acetylsalicylic acid and phenacetin, potentiated by amobarbital.

psychic—because it provides the mood-ameliorating effect of Dexamyl* (Dexedrine† and amobarbital).

Formula: Each 'Daprisal' tablet contains 'Dexedrine' Sulfate (dextro-amphetamine sulfate, S.K.F.), 5 mg.; amobarbital, ½ gr. (32 mg.); acetylsalicylic acid, 2½ gr. (0.16 Gm.); phenacetin, 2½ gr. (0.16 Gm.).

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.

†T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

When

temptation

outweighs

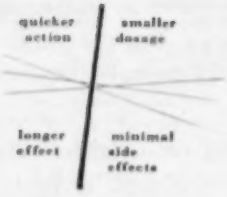
willpower . . .

No picnic this, dodging Temptation's heavy hand . . . wanting to diet, *hating* to diet . . . always on the verge of compromise.

It's so easy to help her with DESOXYN. Just a couple a day to turn back her appetite, to pick up her spirits, to get her by those first two weeks . . .

More potent than amphetamine, DESOXYN brings quicker, more prolonged action with smaller dosage.

A couple days' trial on your next waistline case will prove the point. Abbott



. . . give her

DESOXYN®

HYDROCHLORIDE

(Methamphetamine Hydrochloride, Abbott)

408157

Mitral and Aortic Stenosis

Indications for and Results of Surgery

Robert P. Glover, M. D.
Philadelphia, Pa.

The recent "Renaissance of Cardiac Surgery" has introduced new hope and assurance both to the medical profession and to the patient suffering from the cicatrical and disastrous end results of rheumatic fever. The demonstration in the past decade that the interior of the heart could be successfully invaded at will for the reconstruction of stenotic valvular disease inaugurated this new era of surgical achievement.[1-3] Surgery, almost from its inception, has had as one of its primary objectives the relief of "obstruction and stricture" no matter where the offending block lay within the systems of the human body. It was logical, therefore, that with the application of basic surgical principles to cardiac diseases initial attention and effort was directed toward the relief of "obstructed and strictured" valves.

Any consideration of vascular lesions, surgical or otherwise, must at once take into account the nature of their pathologic change. For reasons not entirely clear the valves within the heart predominantly undergo malformation according to their location within the vascular pump. Thus, the valves in the right heart (tricuspid and pulmonary) are primarily the seat of congenital deformities[4,5]. On the other hand, the mitral and aortic valves in the left heart are damaged by superimposed acquired disease, usually rheumatic in origin. Experience to date has shown that surgical intervention at the proper time and in intelligently selected cases can be considered a major adjunct in the over-all care of the rheumatic heart crippled by valvular stenosis[6-10].

Mitral Stenosis

Definition: A stricture of the mitral valve in which the two anatomical leaflets become fused along their normal line of closure to eventuate in a tiny rigid slit at the mouth of the semi-fixed fibrotic valvular cone—the end-result of rheumatic infection.

Pathophysiology: In rheumatic disease the mitral valve develops numerous minute inflammatory verrucae in a row along the line of closure of the valve. With continuing rheumatic activity and attempts at healing over the course of years there is a gradual development of fibrosis, thickening, and narrowing of the valve leaflets as their cusp margins become adherent at the angles (commissures). This scarring may be limited in extent to resemble a purse-string puckering at the valve orifice with minimal involvement of the

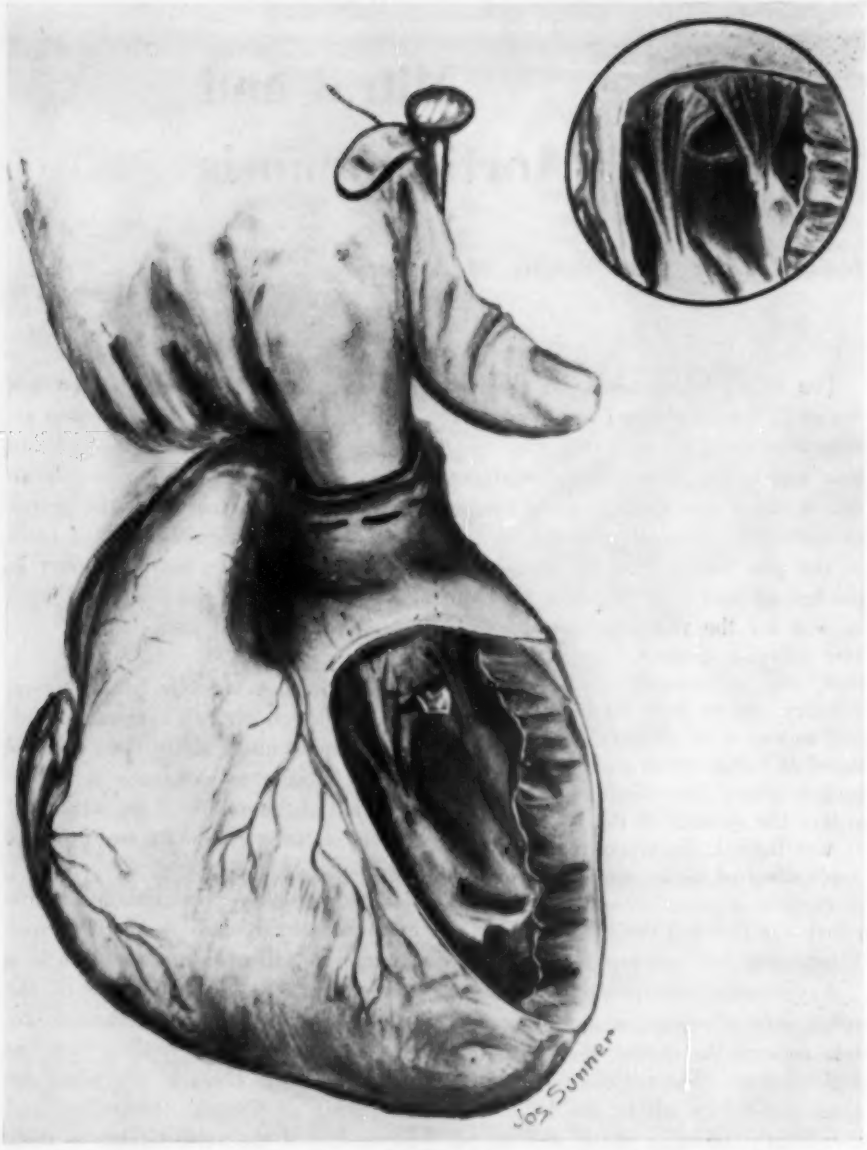


Fig. 1. The right index finger and the Glover-Avery guillotine inserted through the left auricular appendage and placed to begin the separation of the anterolateral commissure. The insert depicts the valve orifice after commissurotomy. Note the intact chordae tendineae insuring partial restoration of valve function with prevention of significant insufficiency.

valve leaflets themselves, which remain quite pliable and of the consistency of kid glove skin. In other instances, the periorificial induration involves one-fourth to one-half of the cone leaving a correspondingly smaller margin of flexible tissue about the base at the A-V ring. In far advanced disease the whole valve may become rigid and completely inflexible—a hard, ovoid plaque surrounding a tiny fish-mouth slit. Calcium may be present at any stage as flecks, localized infiltration, or, rarely, almost completely replacing valve tissue. Thus, as stenosis is produced, pronounced resistance to the passage of blood from the left atrium into the left ventricle ensues. Since the egress of blood from the left atrium is impaired, increased pressure within and considerable dilatation of this chamber results. The high intra-auricular pressure is transmitted to the entire pulmonary vascular system and thence to the right side of the heart. A chronic pulmonary hypertension results with nocturnal or exertional pulmonary congestion (dyspnea), rupture of pulmonary capillaries (hemoptysis), and failure of the right side of the heart (hepatomegaly, ascites and peripheral edema.)

Once this progressive pattern becomes heralded by the onset of fatigue and exertional dyspnea the ultimate outcome for the patient is in time invariably unfavorable. At this point the treatment of the physician will be directed toward the support of a myocardium which is vainly attempting to maintain an adequate systemic circulation in the face of an unrelenting mechanical stricture. The fort can be held temporarily but eventually under such circumstances both the physician and the myocardium are fighting a losing battle. It is paramount to recognize that the earliest onset of symptoms bespeaks a failing myocardial and pulmonary vascular reserve as the result of already long-standing structural valvular stenosis. To repeat, with the onset of symptoms the valvular lesion for the most part has already reached its ultimate cicatrix and progression of the patient's disability is one of symptomatic breakdown and disintegration, not of increasing structural stenosis within the valve itself. The therapeutic conclusion is obvious. The stenotic valve must be opened at the earliest suggestion of the above described obstructive phenomena if one is to avoid the inevitable progression of enlarging cardiac chambers (left atrium, right ventricle, right atrium), pulmonary edema, recurrent hemoptysis, auricular fibrillation, embolic episodes, and chronic congestive (right heart) failure.

Clinical Classification: The following classification has been prepared to provide a clinical, functional yardstick paralleling the progressive pathophysiologic changes as outlined above.

Stages of Mitral Stenosis

I. Asymptomatic
II. Statically incapacitating
III. Progressively incapacitating
IV. Terminally incapacitating
V. Irretrievable.

Stage I includes patients with the auscultatory findings of mitral stenosis but who as yet have no symptoms. Patients in *Stage II* have progressed to the point where symptoms under physical activity have developed, but the patient, living within his own limitations, remains on an even plateau. *Stage III*, the largest group and one encompassing many variables, includes those who, despite the best medical therapy are

losing ground. *Stage IV*, terminally incapacitating, includes those patients in whom there is constant evidence of congestive failure even with limited physical activity. Most of these can be rendered relatively free of their accumulating tissue fluid only by the strictest of medical regimens. A certain small percentage of those in this group will ultimately prove after surgery to have been in *Stage V* and to have had irreversible changes. As yet, it has been impossible routinely to separate patients in these two stages by clinical and physiologic methods; hence, we reserve stage five to classify those whose condition, despite a technically adequate commissurotomy, remains relatively unchanged.

Indications for Commissurotomy: The ideal candidate is the patient with pure mitral stenosis and beginning symptoms of cardiopulmonary dysfunction such as shortness of breath upon exertion. Fatigue out of all proportion to the patient's physical activity is frequently a prodromal or accompanying finding. At the moment the mere presence of a well defined mitral diastolic murmur without accompanying symptoms is regarded by many as insufficient reason to suggest surgery. All other indications for commissurotomy are merely compromises from the ideal but for years to come an understanding of the more advanced but altogether salvable states is essential. An outline under seven major categories will most succinctly serve this purpose:

1. History.
   a. Early cardio-pulmonary dysfunction—ideal.
   b. Marked dyspnea, hemoptysis, reversible failure—acceptable.
2. Age: Elastic range—physiologic rather than chronological (Oldest age 61).
3. Valvular defect.
   a. Pure mitral stenosis—ideal.
   b. Associated mitral insufficiency and/or aortic valve lesion in presence of normal left ventricle—acceptable.
4. Roentgen findings.
   a. Left atrium and right ventricle minimally enlarged—ideal.
   b. Minimal left ventricle enlargement—questionable but acceptable.
5. Electrocardiogram.
   a. Normal electrical axis or right ventricular strain—ideal.
   b. Left axis shift—never acceptable.
   c. Auricular fibrillation with controllable ventricular response—acceptable.
6. Functional Capacity.
   a. Stage II (statically incapacitating)—ideal.
   b. Stage III (progressively incapacitating)—acceptable.
   c. Stage IV and V (debatable)—occasional good result.
7. Complicating Factors.
   a. Arterial embolic episodes } Acceptable,
   b. Recurrent hemoptysis } and may be urgent.
   c. Pregnancy
8. Contraindications.
   a. Acute rheumatic fever.
   b. Subacute bacterial endocarditis until controlled.
   c. Associated marked mitral and aortic insufficiency with all cardiac chambers enlarged.

Surgical Objective: It is sufficient to state here that mitral commissurotomy is a procedure in which the individual

anatomic leaflets of the stenotic valve are separated. By incising the angles or commissures of the mitral slit, its obstructing effect can be overcome and a considerable degree of valve function can be re-established. It is to be noted that no valve tissue is removed, thus allowing the liberated though thickened and deformed valve leaflets to open during ventricular diastole and approximate during ventricular systole with the production of additional significant regurgitation (Figure 1).

Analysis of Cases: Five hundred mitral commissurotomies have been performed by the author and his partner, Dr. Thomas J. E. O'Neill. The operative mortality rate for the entire series has been 5.9%. A statistical breakdown of the first 319 of these cases in whom complete data are available (1 to 5 years) can be seen in Table 1. The results, as graphically portrayed in Figure 2, are self-explanatory.

Aortic Stenosis

Definition: A stricture of the aortic valve in which the three anatomical cusps become fused along their normal line of closure to eventuate in a tiny, rigid, triangular opening at the mouth of a semi-fixed fibrotic valve cone—the end-result of rheumatic infection and possibly of atherosclerotic vascular disease.

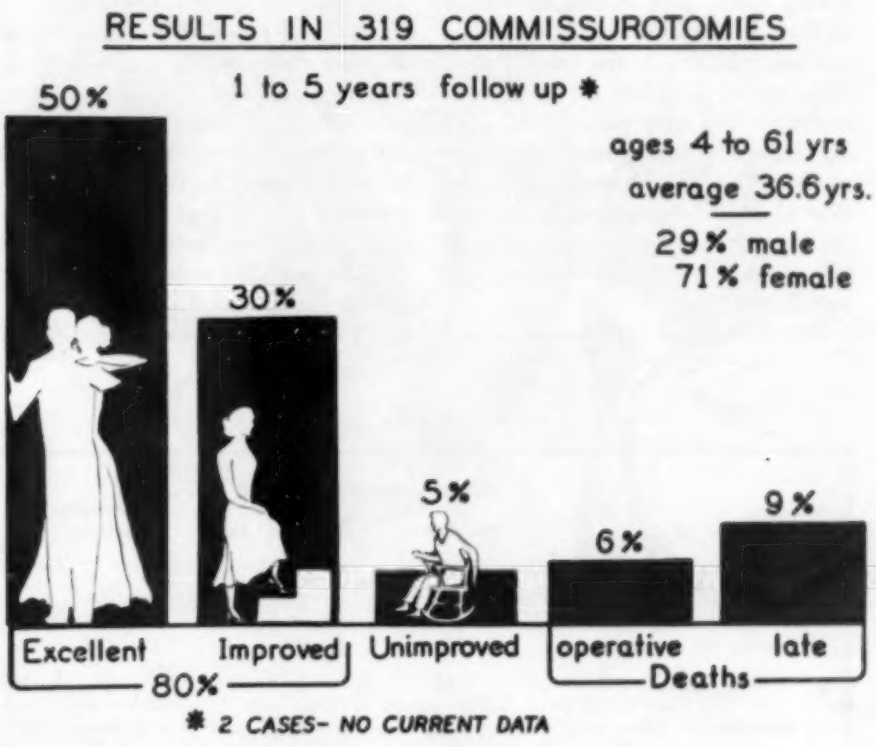


Fig. 2. Results in 319 commissurotomies.

Pathophysiology: As in all valvular pathology, the changes noted vary according to the duration and severity of the underlying etiologic agent be it rheumatic or, upon occasions, arteriosclerotic, multiple. Minute verrucae line the cusp margins during the early course of rheumatic involvement. With progression, fusion of the cusp margins appears from the cusp bases in toward the lumen of the valve orifice. All varieties of distortion may thus occur depending upon the degree of fusion within the three commissures. The cusp margins become thickened, rolled and eburnated. Contrary to the average finding in mitral stenosis, cases of aortic stenosis tend to develop calcification within the cusps at a very early stage leading to greater rigidity of the obstructing diaphragm and less pliability to the valve leaflets. With loss of flexibility the valve tends to remain in a fixed position and varying degrees of insufficiency frequently result. As a rule, however, some degree of motion is retained at the base of the valve leaflets which, although greatly thickened, move as does stiffened shoe leather.

The physiologic disturbances to such an obstruction within the main outflow tract of the left ventricle are obvious. Each ventricular contraction provides a slow ejection of blood as a jet into the aorta. Because of the constant and unyielding valvular barrier the cardiac output becomes fixed and cannot be increased readily upon demand such as is the case in the normal heart. Thus, in time, over-exertion and eventually even slight exertion, increasing the need for additional circulation, leads to an inadequate vascular circulation causing anoxia (dizziness and fainting). The systolic blood pressure is, therefore, not high but its peak level is sustained over a longer interval. The diastolic pressure becomes elevated with consequent decrease in the pulse pressure.

Coronary blood flow becomes reduced, not only by the diminished volume of blood, but also by these pressure changes as described. Concomitantly, the left venticular musculature becomes greatly hypertrophied. This increased muscle mass, caused by overwork, makes even greater than normal demands upon the coronary circulation, thereby increasing the relative inadequacy and disproportion of the coronary

TABLE I

Mitral Stenosis					
Stages of Stenosis	No. Cases	Deaths Operative	Deaths Late	Mortality % Operative	Mortality % Late
I. Asymptomatic	0	0	0	0	0
II. Statically Incapacitating	22	0	0	0	0
III. Progressively Incapacitating	213	9	10	4.2	4.6
IV. Terminally Incapacitating	68	7	7	10.3	10.3
V. Irretrievable	16	3	12	20.0	75.0
Total	319	19	29	5.9	9.0

3.5%

flow. It is little wonder, therefore, that such patients experience symptoms of coronary disease (anginal pain, substernal oppression) even though no actual pathologic change can be demonstrated within the coronary tree.

Eventully the left ventricle shows signs of failure at which time dyspnea,

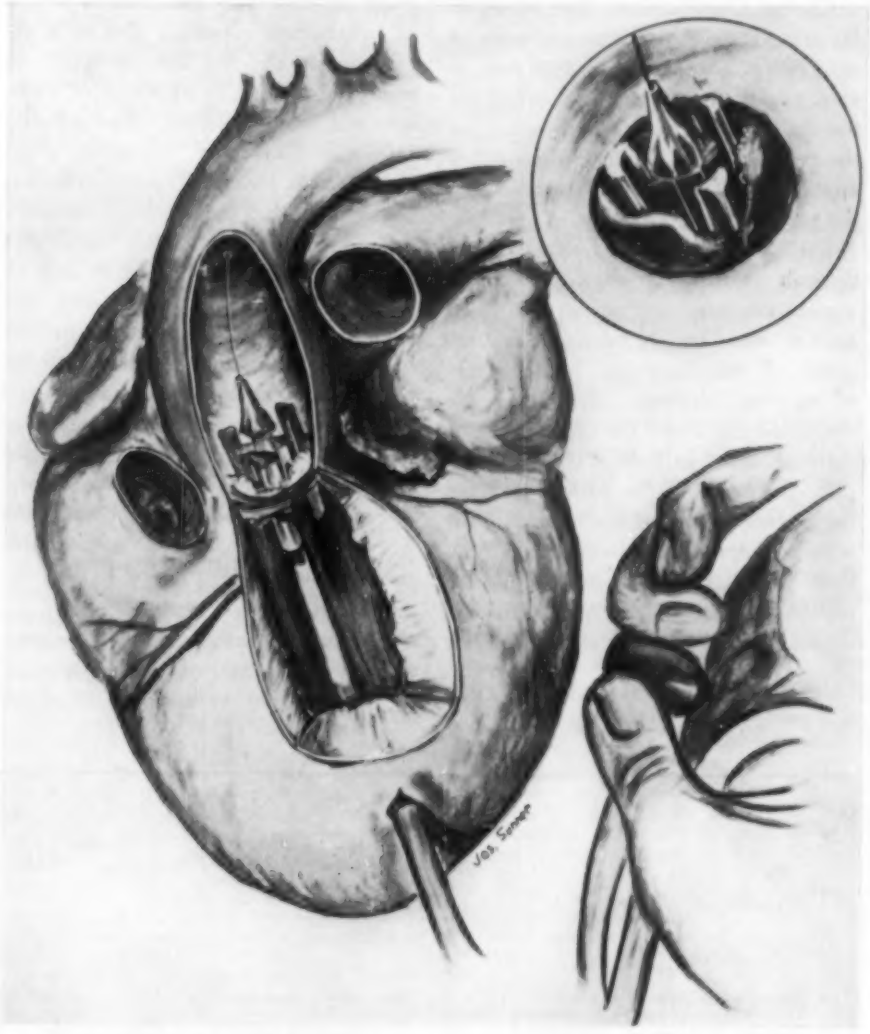


Fig. 3. The dilator inserted through the myocardium of the left ventricle near its apex. The instrument is guided through the aortic valve by threading it over a fine olive-tipped wire previously placed through the valve. The insert depicts the three flanges of the dilating head separating the commissures. The self-rotating head settles automatically into the V-shaped commissures of the fused aortic cusps.

pulmonary congestion and generalized fluid retention may develop. When this occurs the patient is in serious straits and his downhill course progresses rapidly.

Clinical Classification: The necessity for translating the present rationale of surgery for aortic stenosis into reasonable, practical language has called for the development of a classification for the recognition of clinical states either applicable or unsuitable for surgery at the present time.

The recognizable clinical stages through which the average patient with aortic stenosis will pass are well known and readily defined in the mind of the physician in the light of surgical advances. *Stage I* is the period during which the typical systolic murmur develops before symptoms result. In *Stage II* the patient becomes subjectively aware of his forceful heart action, palpitations develop, easy fatigue becomes noticeable and his attention may be called to the unusual, visible pulsations in his supraclavicular and suprasternal notches. Admittedly, this stage is not specifically characteristic of aortic stenosis per se, but when seen with an aortic systolic murmur the combination takes on added signficance. *Stage III* ushers in the obvious period of progressive disability due to a diminishingly effective cardiac output as evidenced cerebrally by spells of dizziness and actual syncope. Myocardially, subternal discomfort, tightness, effort angina with its characteristic distribution bespeak inadequate coronary flow. With beginning left ventricular failure, *Stage IV* is characterized by episodes of pulmonary congestion and edema at first rather easily controlled by medical measures but shortly to become refractory to even the most vigorous management. *Stage V* connotes impending disaster and early demise, for right heart failure with hepatomegaly, ascites and peripheral edema labels the heart picture as one of irretrievable damage not to be reversed by any regimen—medical or surgical.

Surgical Objective: Briefly, the pres-

TABLE II

Aortic Stenosis

	No.	Excellent	Improved	Deaths Operative	Late
I. Asymptomatic—murmur only	0	—	—	—	—
II. Fatigue, Heart Consciousness, Palpitations	2	2	—	—	—
III. Syncope, Angina	9	1	5(1*)	1 } 19%	2(1*)
IV. Episodic Pulmonary Congestion	9	—	4(1*)	4(1*) 44%	1
V. Congestive Failure	11	—	1	9(3*) 82%	1*
TOTALS	31	3	10(2*)	14(4*)	4(2*)

* Combined Mitral and Aortic Commissurotomies

ent operative approach calls for a left lateral thoracotomy, the introduction of a dilating instrument through a relatively avascular area of the left ventricle near its apex and lateral to the left descending coronary artery. The dilator is directed through the valve by passing it over a previously placed wire guide, the olivary tip of which can be felt in the aorta prior to insertion of the larger instrument through the myocardium. The dilating head opens in triangular fashion causing the fused commissures of the stenotic valve to separate, partially relieving the stenotic obstruction and restoring a measure of valve action (Figure 3).

Results of Surgery: Thirty-one cases have undergone aortic commissurotomy and eight of these have been combined with a mitral commissurotomy because of concurrent bivalvular stenosis. The pertinent data can be seen in Table II. The observation of paramount importance, however, is that cases done in the early symptomatic phases (11 cases—Stages II & III) run a risk of only 9%. Once the patient has been allowed to develop left ventricular failure the surgical mortality rises to prohibitive levels. Even should he survive it is doubtful that appreciable improvement will result due to the magnitude of the valvular and myocardial pathology at this late date.

Conclusions

The natural course and progression of rheumatic stenotic valvular disease has dictated the necessity for the mechanical relief of its acquired stricture. Mitral and Aortic commissurotomies have become major adjuncts in the over-all and continuing care of victims so afflicted. Provided the patient is referred for surgical intervention early in the course of his symptomatic progression, such a patient can be restored to a high level of efficiency and enjoy a more normal life as a useful and productive citizen.

The burden of selecting patients at an early stage rests squarely on the shoulders of the practicing physician and this responsibility can no longer be avoided or postponed.

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269 So. 19th Street.

Tumors of the Breast

This summarization attempts to cover the essential information on the subject, including therapy, and is designed as a time-saving refresher for the busy practitioner.

Part 1

Any discussion of tumors of the breast leads immediately and persistently to cancer of the breast. As such, in this present summary, we will touch upon the benign aspects to aid in the differentiation but will dwell upon the malignant because of the wealth of material presented in the literature upon that aspect of breast tumors. Everywhere is found a plea for revision and re-evaluation of ideas on the subject of breast cancer with a further plea for earlier diagnosis as the only hope for its control.

The breast is one of the most accessible parts of the body and examination is simple[2], yet breast cancer is the commonest cancer found in women—about 60 women per 100,000 in New York State develop cancer[1]. Remember, too, that 98% of the women who develop breast cancer discover the tumor themselves[3].

In Haagensen's clinic 4.9% of breast cancers were discovered in patients with no complaints referable to the breast but during the routine physical examination. His clinical impression of the rate of growth of untreated carcinoma of the breast is that it takes from 6 to 12 months for a breast cancer to grow from a diameter of 1 cm. at which it can be detected only by careful examination, to a diameter of 4.8 cm., the mean diameter at which a patient presents herself for treatment.

When a physician is confronted with a patient having a textbook picture of cancer—it is usually too late to initiate even such measures as radical mastectomy for these textbook signs—retraction, fixation, discoloration, axillary metastases etc. signify advanced carcinoma.

Early carcinoma carries with it no symptoms. Any of the following visible signs are indications for surgical biopsy and not for the "watch and wait" program advocated up until recently[4].—1) persistent scaling of the nipple 2) slight ulceration of the nipple 3) drop of discharge from nipple (bloody or serous) 4) persistent shadow on transillumination. Any of the following palpable signs also demand surgery 1) slight thickening of the breast 2) a tiny lump in the breast 3) slight thickening of the nipple 4) a non tender axillary lymph node which is larger than 1 cm. in diameter.

These are the signs for which all physicians must search in the examination of the breasts of every woman. In fact, the education of lay persons (as in

the self examination technique-vide infra) has so sharpened the public awareness of minimal asymptomatic changes in the consistency and appearance of their breasts as to make the textbook findings of lump, peau d'orange, ulcerating masses almost obsolete in the physician's office.

In order to detect these minimal changes the physician must become familiar with the consistency of the normal breast and the appearance of the normal nipple. Then he must acquaint himself with the histopathological deviations from normal.

Examination Routine for Breasts

The examiner should study the breasts as a separate step in the routine physical examination[3]. This should be carried out, in a good light with the patient facing the examiner, gently, slowly and painstakingly.

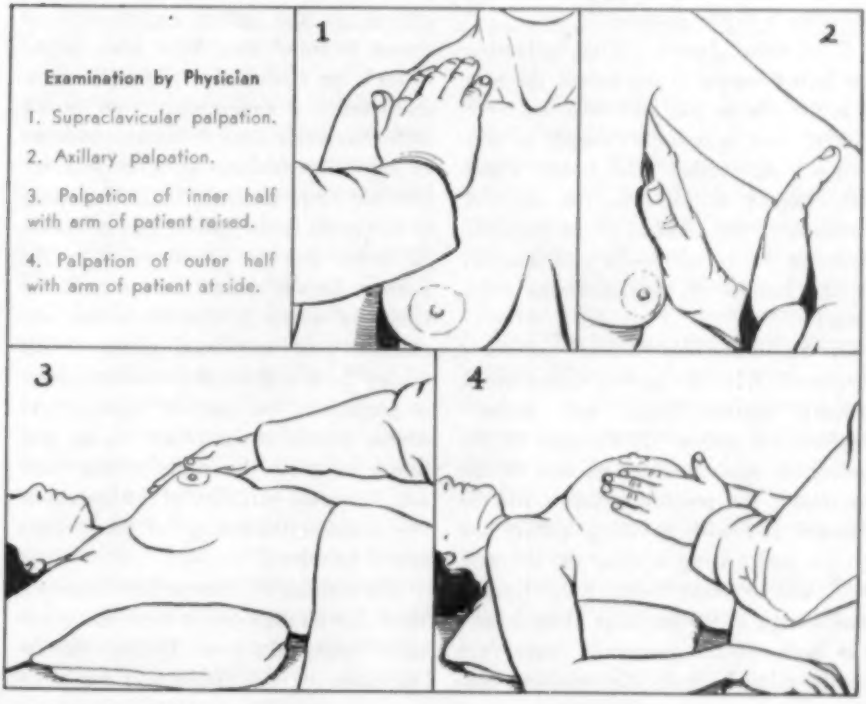
A. Inspection—The following should be checked with the patient in a sitting position.

1. What is the relative size and position of each breast? Can a lump be seen?

2. Is there any dimpling or flattening (retraction) present? These are often seen only in movement of the breast as in forward bending.[3]

3. Is there a change in the direction of the pointing of the nipples. Are the areolae the same size and shape? Is there any crusting or erosion on surface?

4. Is there any change in skin surface? Early edema may appear as increased shininess, late edema (orange



skin) is immediately obvious.

5. On contraction of the pectorals is any change apparent? Occasionally a deep seated tumor may be adherent to the pectoral fascia and not to the skin. On contraction of pectorals, there is a relative fixing effect, pulling the carcinomatous area upward. The contraction of the pectorals is accomplished by asking the patient to press her hands against her hips.

B. Palpation—of the patient should be done in the supine position with the breast balanced on the chest wall by using a small pillow under the shoulder of the side to be examined. This should be a gentle, precise and orderly process using the flat of the fingers of one hand.

1. Medial Aspect. When palpating the medial half of the breast the patient's arm is raised above the head as the tensing of the pectoral muscles thus provides a flatter surface.

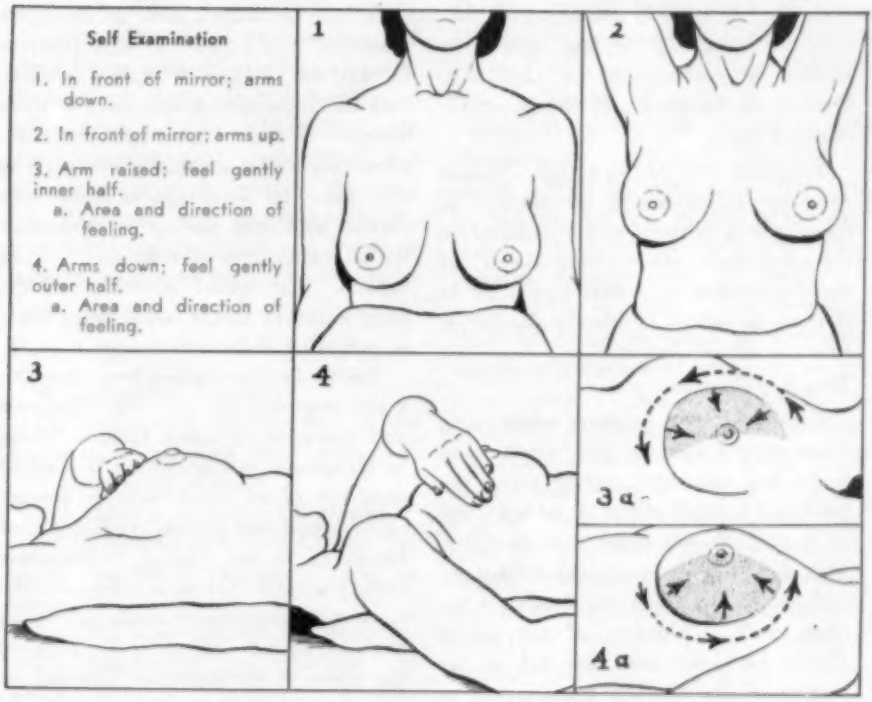
2. Lateral Aspect. When palpating the lateral aspect of the breast, the arm is at the side so that the breast lies more caudad and is more accessible to palpation. Remember, the breast tissue may extend as high as the clavicle, medially to the midline of the sternum, down to the rectus fascia and laterally to the border of the latissimus dorsi muscles.[5]

3. Supraclavicular and Axillary Regions. With the patient sitting erect, palpate supraclavicular and axillary regions for nodes. If the arm of the patient is supported by an arm of the examiner, the pectoral muscles will be relaxed and with gentle palpation the lymph nodes lying against the thoracic wall will be more easily felt. Lymph nodes high in the axilla or close behind the body of the pectoralis major are easily missed. Note the number, consistency and mobility of nodes. (For an all-inclusive discussion of the examination of the breasts the reader is referred to Haagensen's Monograph on "Carcinoma of the Breast."[2])

Early discovery and diagnosis followed by definitive treatment is the only hope for a control of the malignant phases of diseases of the breast but early diagnosis can be achieved by better training of the physicians only to a limited extent. Even if all physicians were well trained, only a compartively few women present themselves sufficiently frequently to assure diagnosis at an early stage.

Haagensen feels that if breast cancer is to be detected at an earlier stage in its development, it is the women themselves who must do it by self examination. He reminds us that in our propaganda to the public, emphasis has been placed on the grave significance of breast tumors,[6] they have been urged to seek the advice of a physician upon discovering a tumor, but nothing, or little, has been done to educate women to routinely examine their breasts for possible early tumors. This routine is to be taught to the patient by her family physician and the examination by the patient herself is to be carried out routinely every 2 months in the immediate post menstrual phase of the cycle. In this phase there is eliminated, in great part, the vascular engorgement of the premenstrual phase which produces in some the slight enlargement and increased turgidity of the breasts or the nodular thickening of the breasts found in others.

The routine of "Breast Self Examination" is well depicted in a sound technicolor 16mm film made through the cooperation of the National Cancer In-



stitute of the U. S. Public Health Service and the American Cancer Society. In this film there is first a demonstration of how breast examinations should be done by the physician, then a portrayal of how a physician should teach his patient to examine her own breasts and finally an attempt is made to give women seeing the film, confidence that, with careful and methodical self examination, they can be reasonably certain of discovering breast carcinoma, if they develop it, at an early enough stage to be cured.

This film has been popular with women in clubs and organizations. Many women have consulted their physicians with smaller or larger lumps, some of them benign, as a result of viewing the film. Some undoubtedly acquired cancer-phobia as the result and palpated their breasts daily and tormented themselves. Physicians can be more selective and take care to teach self examination only to those patients whom they know well enough to know they will approach the problem with the necessary degree of detachment.

The Technique for Self Examination This should be carried out in negligee or night clothes to permit free access for inspection and palpation of thorax and breasts.

Step A. Inspection

Careful inspection of the breasts sitting before a mirror.

1. *Size*—Reassurance should be given that breasts are frequently unequal in size.

2. *Shape*—Change in shape is a dan-

ger sign. If there is assymetry of contour or dimpling of the skin—this should be checked by a physician. Raising of the arms may bring out retraction signs.

3. *Appearance of the nipple.* Simple inversion is no reason for alarm. If the nipple is flattened and broadened or retracted these are warning signs. If there is erosion, no matter how small or if there is serous or bloody discharge, help should be sought.

Step B. Palpation

Palpation must be done while lying down supine with the arm, on the side to be first examined, raised above the head and a small pillow or folded towel as a pad placed under that shoulder. This shifts the breast somewhat medially and flattens and balances it against the chest wall. Palpation of the breast should be down with the flat of the fingers of the opposite hand gently as tactile sensitivity is greatest with gentle palpation. (See illustration Pg. 359, Vol. 149, May 24, 1952, No. 4, J.A.M.A.)

1. *Gentle exploration of the whole extent* of the *inner half* should be done in segments in a transverse direction from the nipple line to the sternum and from below the clavicle to the infra mammary fold. (This fold becomes more dense and nodular in older, more atrophic breasts.)

2. *Exploration of the outer half* of breast should be done with the arm at the side in a transverse linear direction from nipple line to axilla (i.e. edge of latissimus dorsi muscle) beginning at inframammary fold and ascending to the axilla or the upper outer sector which is the thickest part of the breast.

It is advisable for women to follow a definite technique such as has been described and adhere to this routine. In this way they will become familiar with the physical characteristics of their breasts. Women can become comparatively expert, especially inasmuch as they have the advantage of being concerned with and having to remember the characteristics of only one pair of breasts. The added advantage of the proprioceptive tactile sense helps them in palpating their own tissues.

The medical profession bears the ultimate responsibility for the diagnosis and treatment of breast tumors. When, as Haagensen points out[7], it is realized that 4% of *all* adult females acquire ca of breast and 12,000 women die of breast ca in the United States alone each year and that in a study of "the manner of diagnosis of breast ca" wrong medical advice was given in 27% of the cases at Presbyterian Hospital by the first doctor they consulted—the family doctor—then it behooves us to increase our knowledge of all forms of breast tumors and deviations of the breast from the normal that can occur.

Embryology and Development[8]

The breast develops from the mammary ridge as a thickening of the epidermis—first seen in a 9 mm. embryo. Later the mammary bud develops and from the 5th to the 6th fetal month 20-25 ducts grow down from the mammary bud. During childhood there are few branches to the ducts but at puberty there is marked growth of the ducts and increasing branching. In a young woman there are lobules composed of ducts separated by connective tissue and containing a few leukocytes. If pregnancy never occurs—this remains about the same and at menopause a progressive atrophy of the smaller ducts occurs

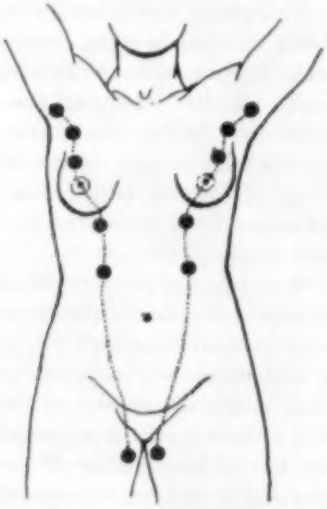
until only a few larger ducts remain. During pregnancy—hypertrophy of gland tissue with enlargement and subdivision of ducts, and formation of acini occurs. In the lobules there are many mononuclear leukocytes and during lactation, the cells of the acini are filled with milk droplets. Involution following gestation and lactation consists of atrophy of acini and smaller ducts.

Pathology

A. Congenital Anomalies

The embryonal development of the breast makes possible many anomalies.

1. *Inverted Nipples.*
2. *Athelia* (absence of nipples).
3. *Polythelia*—A condition in which the breast has more than one nipple.
4. *Amastia*—absence of breasts.
5. *Polymastia*—a condition in which more than 2 breasts are present.



Black circles show locations of supernumerary breasts and nipples. Dotted lines show course of the milk lines of the embryo. (after Merkel)

This is definitely hereditary and occurs 5 times as frequently in females as in males. The supernumerary breasts may be located in axilla, in inguinal region, along the side of thorax or abdomen, on vulva or lateral side of thighs. With few exceptions, they are located at the site of the mammary glands of lower ammals and presumably develop from the mammary ridge of the embryo. These locations must be borne in mind as they are occasionally the site of benign or malignant tumors. Thus is presented the possibility of primary breast tumors in the axilla, abdominal wall, groin thigh or buttocks even in the absence of nipples (athelia).[3] Hypertrophy in these locations, which can occur in any decade after puberty, is sometimes difficult to distinguish from malignant degenerative changes and demands surgery.

B. Acquired Anomalies

1. *Infantile Hypertrophy* — a growth of glandular tissue associated with puberty praecox. The known causes are granulosa cell tumors of ovary —adrenal cortical tumors and rare intracranial neoplasms affecting the hypothalamus.

2. *Hypertrophy* — excessive (wrongly called virginal hypertrophy) may start with puberty as a diffuse enormous enlargement continuing to grow for a few months or years—or it may begin later in life, as late as the 48th year. This is a diffuse hyperplasia of the connective tissue with no tumor formation and must be differentiated from intramammary lipomas and fibromas. Plastic surgery is of definite benefit in this condition.

3. *Gynecomastia* is an enlargement of the male breast due to increased

glandular tissue and not just increased adipose or fibrous tissue. It resembles a female breast and may be unilateral or bilateral, appearing at puberty or later life. This is often associated with hypophyseal tumors, and is caused by choriocarcinoma of testis or other testicular tumors in which case probably the prolan secreted causes the growth of the glandular tissue.

4. *Mastitis*—this occurs at the time when there is physiological activity of the breasts and a predisposition to infection. Types:

a. Neonatorum — physiological swelling and tenderness around nipple appearing from the 4-20th day neonatally. This clears spontaneously without treatment.

b. Adolescent—a circular button like area of induration encircling the nipple. It is found in girls shortly before the onset of menses, and in boys shortly after sexual maturity. It is a reaction to hormonal stimulation and needs no treatment.

c. Acute Mastitis—this occurs during lactation in which areas of induration and signs of infection appear as result of the entrance of staphylococci through cracks and fissures of nipples—treatment—open and drain abscess.

d. Chronic exudative Mastitis is a condition in which, during lactation or pregnancy without lactation, infection may develop slowly to produce induration but little tenderness or redness. There is lymphocytic infiltration in and between the lobules. This usually subsides under conservative treatment.

e. Chronic fibrous Mastitis—this is characterized by the presence of masses of dense fibrous tissue within and between the lobules. It is not a true inflammation as there is no inflammatory exudate.

There are 2 forms in the female:

1. The entire breast is one flat fibrous mass with rounded, hard, easily palpable edges. On section, it appears as tough fibrous tissue with few distended ducts.

2. The breast is filled with small masses—ill defined, non adherent, corresponding roughly to lobules—with dense fibrous tissue throughout. This may be a result of an uneven increase of fibrous itssue during involution or as a result of trauma.

[This is the most common tumor of the breast in young men. It develops slowly to a stationery size, forming a diffuse indurated non-adherent mass in one breast. Sometimes it is accompanied by slight pain and tenderness. On section, to differentiate it from gynecomastia, there is no glandular growth but merely dense fibrous tissue.]

5. *Tuberculosis* is usually secondary to a tuberculous focus elsewhere. A painless lump may be the first sign. It is more rapidly developing than carcinoma and fistulae may form. The diagnosis is made upon the microscopic finding of tubercle bacilli. For treatment conservative removal of the tuberculous tissue is advised.

6. *Cysts.* a. Simple—dermoid or sebaceous—are rare in the breast and similar to those elsewhere.

b. Galactocele is a retention cyst and is due to the obstruction of the milk ducts, occurring after a period of lactation, by thick secretion or mastitis. There may be one large or several small cysts. The excision of the cysts is the best form of treatment.

c. Cystic disease—(chronic cystic mastitis) (Schimmelbusch's disease).

This is most frequent between the ages of 30 to 50. It occurs rarely before 20 years of age and seldom after menopause.

On inspection the breast may appear normal or lumpy and asymmetric. On palpation one or more well defined lumps or indefinite areas of induration may be found. These lumps are non adherent to the skin or deep fascia. These areas increase in size or new areas may appear.

Type 1. Single large cyst with smooth lining and clear contents. The adjacent breast tissue is normal or there is a slight dilation of the ducts.

Type 2. Ectasia of the ducts—a group of small cysts with little or no growth of glandular tissue. The breast tissue at a distance shows slight ectasia (dilatation).

Type 3—A solid mass in which cysts are inconspicuous or absent. On microscopic examination there is a marked hypertrophy of the lobules of an adenomatous type. The ducts are closely packed and increased in number but the *lobules are distinct.* It differs from carcinoma in that the hyperplastic glandular tissues retains a lobular arrangement. The simple removal of this mass is not followed by the development of a carcinoma. (When a cyst contains blood or it is lined by soft necrotic tissues or the wall is rigid it should be examined for malignancy.)

McCormick states[2] that when he does a biopsy for a breast lump and finds the tissue of the breast permeated with dark cysts of varying sizes, he removes all of breast tissue even through frozen section is negative for in his experience there is a continuous recurrence of lumps and soreness.

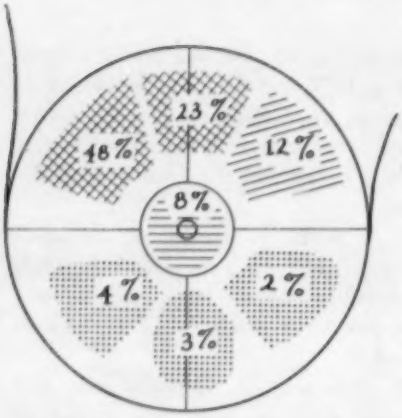
In connection with chronic cystic disease and cystic adenoma Ewing pointed out in 1922 that they may be benign as long as the intracystic growth is confined to the cyst wall, but when the capsule is penetrated the growth is malignant.

7. *Tumors—Benign* a. Simple—lipoma, angioma, myxoma, fibroma, chondroma occur fairly infrequently but can occur and so must be kept in mind.

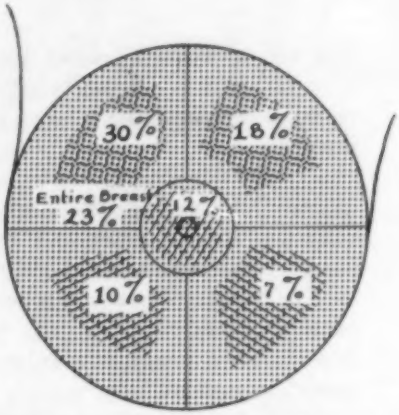
b. Sarcoma—is relatively rare and usually develops from the stroma of fibro-adenoma. The histology is the same as for sarcoma elsewhere with good prognosis for grade I.

c. Fibro-adenoma may occur at any time in females but, occurs usually in young women. It is a firm non adherent and circumscribed growth (easily enucleated) usually single, occasionally multiple, occurring in one or both breasts. The consistence of the tumor is firm or soft depending on the character of the connective tissue. Microscopically, the glandular tissue is arranged in lobules. When it resembles normal breast tissue lobular in structure, it is called the *pericanalicular type.* When it is arranged in long anastomosing ducts, without definite lobular arrangement, it is the *intracanalicular type.* The stroma varies from dense fibrous to loose areolar. In 1 or 2% the stroma becomes sarcomatous. The glandular tissue is more prominent in a tumor removed during pregnancy or lactation and frequently there is a very rapid increase in size during a pregnancy or lactation as the tumor takes part in the physiological hypertrophy of the gland, by a marked hyperplasia of the epithelial portions. Fibro-adenomas do not recur after removal but other tumors of

Percentage of Distribution of Mammary Tumors

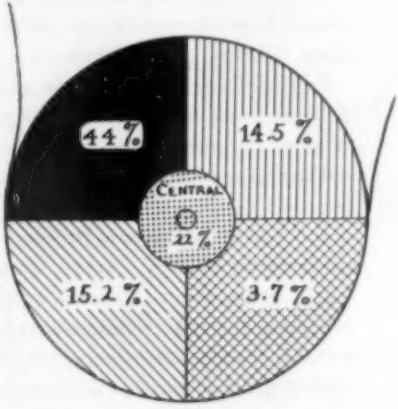


Location of 410 solitary cysts

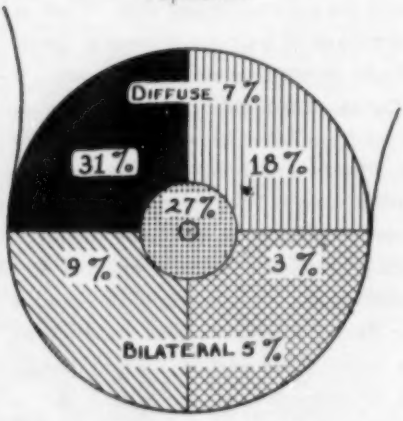


79 cases of benign fibro-adenoma

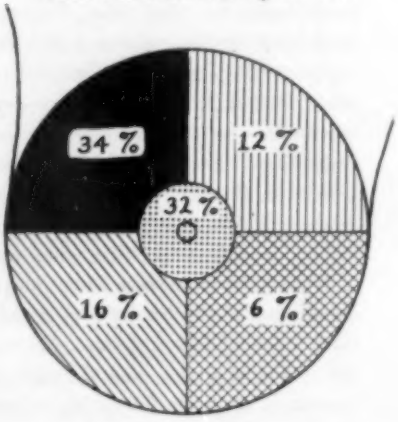
Papillomas



1000 cases infiltrating cancers



197 cases of papillary adenocarcinoma



Neo-mammary cancer

(after Geschickter)

similar structure can develop in the same breast.

8. *Tumors*—Malignant a. Papillary neoplasms

Type 1—benign intraductal papillomas are merely due to dilated ducts.

Type 2—Malignant papillary carcinoma: a cytological study of the bloody discharge often will show desquamated abnormal cells long before a mass or thickening can be detected.

b. Scirrhous carcinoma—comprises 90% of malignant breast tumors. It is a hard nodule forming adhesions early to the skin and deep fascia. There is no apearance of encapsulation and small yellowish or whitish spots of fatty degeneration and necrosis appear in the tumor. Microscopically it consists of cords of cells distributed through dense fibrous tissue. They progress slowly with little tendency to ulceration but the prognosis is poor.

c. Medullary—This is a soft tumor that tends to form a massive local growth with ulceration. When small, these do not tend to adhere to skin or deep fascia. They occur in 6% of malignant breast tumors. On section, the small tumors are sharply circumscribed and the large tumors infiltrate extensively. They are of soft consistency and contain little fibrous tissue. On microscopic examination there are masses of epithelium in solid cords or more or less differentiated into glands. The latter, when composed of well formed glands, are called adenocarcinomas and are less malignant than the undifferentiated tumors.

d. Gelatinous carcinoma—These are small non adherent soft tumors which on microscopic exam. consist of small nests of epithelial cells separated by stroma filled with mucin.

e. Acute—Inflammatory carcinoma of the breast. The breast exhibits signs of an acute mastitis with fever—in ⅔ of the cases the inflammatory signs develop with the development of tumor, in ⅓ they develop in a tumor that has been present for some time. The inflammatory features are due to extensive carcinomatous lymphangitis with the lymphatics filled with tumor cells. The growth is rapid and invariably fatal.

f. Paget's carcinoma of nipple—Begins as a chronic eczema on the nipple. Microscopically there are nests of clear hydropic cells within the epidermis, more numerous at the growing margins. There is usually a carcinoma-like neoplasia in the large ducts leading to the nipple. Either the disease originates at the same time in the ducts and the epithelium or an intraductal carcinoma is present which extends to the epidermis of the nipple. Occasionally these metastasize to axillary nodes—Treatment is radical mastectomy.

g. Comedo Carcinoma—These are non adherent, slow growing tumors, which may be localized or diffuse. On section, the gross appearance suggests carcinoma, which on pressure exudes an oily material from the surface. On microscopic examination, ducts, lined with multi-layered epithelium, are found. These are filled with homogeneous material. Simple mastectomy is usually sufficient.

Metastases from Carcinoma of Breast

1. Develop in axillary and mediastinal nodes with great frequency in the early stages.

a. Sometimes the mediastinal nodes

are invaded before the axillary—as shown by mediastinal recurrences in patients without axillary metastases.

b. Axillary nodes often are invaded before mediastinal nodes or there would be no cures of those with axillary involvement.

2. The supraclavicular nodes are less often invaded.

3. Invasion of pleura and lungs occurs from the mediastinal nodes—causing hydrothorax if pleural metastases are present. The mediastinal masses compress thoracic organs: large vessels trachea, oesophagus—with resultant symptoms.

4. Invasion of pedicardium and heart by extension may occur.

5. Liver metastases by extension through lymphatics of anterior thoracic wall and coronary ligament may occur.

6. Bone metastasis is generalized with those near the breast most common and involvement of bones distal to knees and elbows rare.

7. In 7 to 10% of cases another carcinoma develops in opposite breast months or years later.[8]

Mider and Schilling[9] have found that a second cancer of the same histogenesis may be expected to occur much more often than one would expect on chance alone. They found that individuals with cancer of the breast or intestines have a significantly increased probability of developing a second cancer of the same or similar histogenesis.

The important thing to know from the surgeon's standpoint is whether it isan entirely new cancer or a metastasis or local extension from the cancer in the first breast. If there is local recurrence on the operated side and distant metastasis it is probably also a metastasis and only palliative radiation should be given for a cure is not possible. If none of these are found, it is probably a new carcinoma and radical mastectomy should be performed on this second side.

Diagnosis

A. Surgical Biopsy is the most reliable means for diagnosing any breast lesion.

Khedroo, Casella *et al.*[10] studied 432 breast biopsies in 10 years 1940-1950 and found 15.5% to be malignant (1 out of 6). It was interesting to note that there exists an increased awareness of the possible danger of a solitary breast mass for in the period of June-December 1940, 20 biopsy cases were done, in 1949 53 cases and in 1950, in only January-June 41 cases. The greatest number of biopsies were in the 20-40 age group with a relative malignancy varying from 2 out of 100 to 5 out of 100. In the 40-80 age group there were fewer biopsies but the instance of malignancy was up in a ratio of 1:1 in ages 50-60, of 3:1 in 60-70, and 2:1 in 70-80.

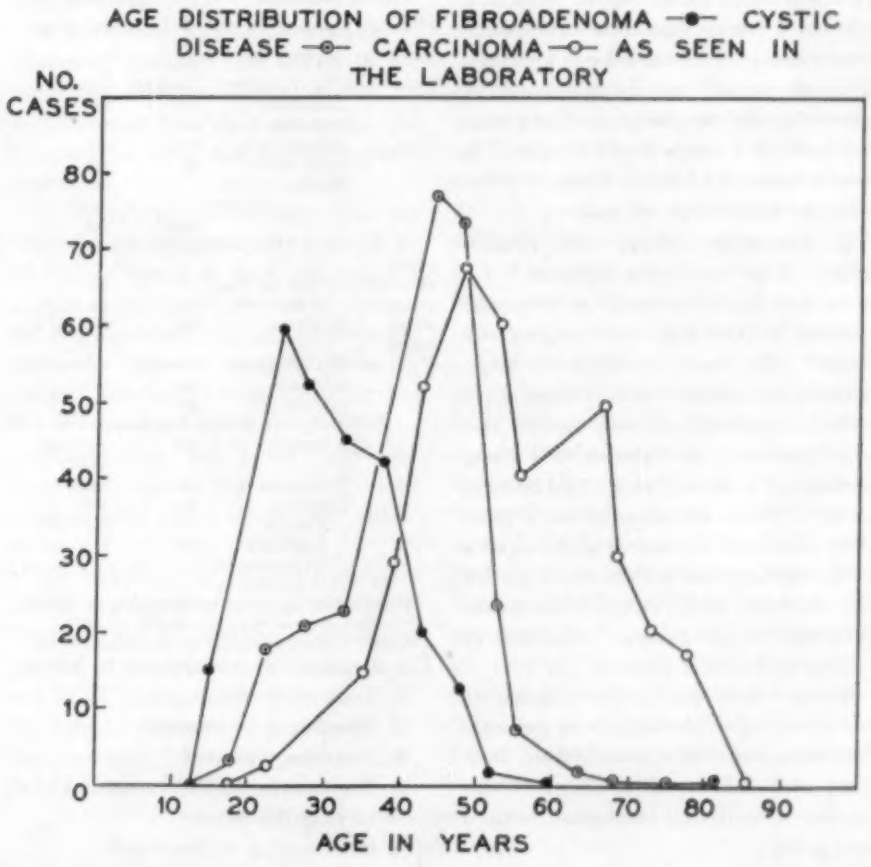
Khedroo believes that it is possible for a surgeon, well trained in pathology, to be 80% accurate on gross diagnosis. He also feels that due to the limitation imposed upon a frozen section by the thickness of the tissue and thus the poor absorption of the stain, where there is a question in the gross state it is better to wait 48-72 hours for a final diagnosis from a paraffin preparation after removing the mass in toto and doing a primary closure.

Saphir[11] feels too that an experienced

Note: Maximum incidence of fibroadenoma is in the 3rd decade. The maximum incidence of cystic disease is in the 5th decade and it seldom develops after menopause. Most breast tumors under 30 are benign and a breast tumor after 50 is usually malignant.

pathologist can diagnose on gross examination alone—and that the frozen section constitutes the only reliable quick diagnostic method to save the mental anguish and extra cost entailed in waiting for a paraffin section diagnosis. There are instances, he says, where even a frozen section cut and examined by an expert, doesn't yield a clear cut diagnosis but in Saphir's experience this type of lesion generally turned out to be non malignant. He advocates the removal of the entire lesion for examination rather than to cut into the diseased tissue.

Haagensen and Stout[12] do not remove the whole tumor for diagnosis as they feel it adds to the risk of producing metastasis. They advocate incisional biopsy—with the excision of a 3 x 5 mm. wedge for frozen section. This, they feel, minimizes the risk of metastases as it cut across veins and lymphatics of a smaller size than removal of the larger mass would necessitate and fewer cancer emboli would probably be carried off. If frozen section is unavailable or does not yield a definite diag-



nosis they too advocate closure and later surgery as dictated by the pathological reports. On studying a series of cases in which there was a delay of from 1 to 10 days between biopsy and radical mastectomy, Haagensen found the end results no different than with immediate operation.

McCormick[3] feels that careful and proper examination of both male and female breasts and biopsy of any suspected area offers more to the patient and doctor than any other procedure.

B. Transillumination This is used principally to diagnose or rule out cysts. Malignant lesions cannot be diagnosed by trans-illumination and it does not rule out a beginning carcinomatous degeneration of a cystic mass. Properly done, as pointed out by Klopp[4], it is too time consuming to be used as a routine part of a physical examination. It cannot be used to differentiate between a benign and malignant lesion.

C. Aspiration Biopsy or Needle Biopsy This has been advocated by some and has been used at Memorial Hospital in New York for a number of years. After local anesthesia a large bore needle, attached to a syringe, is inserted into the tumor with suction and withdrawn and advanced several times sucking up a core of tumor cells into the needle. These are smeared on a glass slide, fixed and stained. It gives an idea of the cytology but not the histology (or cell structure) of the tumor, which makes pathologists in general reluctant to recommend needle biopsy.

Davis[12] feels that in the passage of the needle, the physician can gain information, i.e., a fibro-adenoma feels hard and rubbery and clings to the needle; a scirrhous carcinoma is hard and gritty.

Haagensen, Stout and others[5] feel that the pressure exerted in the passage of the needle increases the trauma and causes the squeezing of cancer emboli into the veins for metastatic spread. As cystic disease and carcinoma may coexist in the same lesion with the cyst large and the carcinoma small, aspiration of the cyst contents may leave the carcinoma undetected. A small deeply seated carcinoma is most difficult to find with the apirating needle.

D. Cytological Examination of excreted or secreted discharge of Nipple. A discharge from the nipple is usually a sign of abnormality in the breast.

James Garland[14] has summarized the clinical features in the differential diagnosis of nipple discharge.

		Bilateral	Tumor
Type A. *Milky* (Lactation)			
	Colostrum	yes	no
	Lactation	yes	no
	Galactorrhea	usual	no
	Galactocele	no	yes
	Mastitis—acute		(retention
	chronic		cyst)
		usual	yes
B. *Serous* (desquamation)			
result of over estrogen stimulation	cyclic (at time of menses)	yes	no
	dysplasia	yes	cyst (?)
	dilated ducts	unusual	wormy
	infection	no	yes
	plasma cell	no	yes
C. *Bloody* (Epithelial hyperplasia)			
	Adenosis	yes	questionable
	Papilloma	no	usual
	Cancer	no	yes
	Paget's	no	typically
	Papillary Cystadenoma carcinoma	no	yes

Milky—may be milky creamy, thin or cloudy
Serous—may be watery, cloudy or dark
Bloody—grossly bloody or serosanguineous

For diagnosis it is necessary to know:

1. Type of discharge
2. Whether it is bilateral
3. Is a tumor present
4. The lactational and menstrual history of the patient
5. Examination of the smear.

The technique for the collection of material for cytological examination is so simple as to make it a possible office procedure.[15]. A few drops of secretion are removed by a wire loop or scapel to a glass slide or the slide is placed over the drop on the nipple. The drop is then smeared with another slide as for a differential blood count and while still wet is placed in a mixture of 95% alcohol and ether. It is stained by the Papanicolau Method.

The basis for diagnosis of:

1. Chronic cystic mastitis—presence of large phagocytes (foam cells) with relatively few epithelial cells (often arranged in clumps).

2. Intracystic papilloma—presence of clumps of epithelial cells with oval and sometimes elliptical shaped nuclei. Individual cells have clear cut nuclei and cytoplasm no anochromasia or anaplasia is present.

3. Intraductal carcinoma—cells are large in size as are their nuclei. The nucleus is found to have an irregular pattern of chromatin and a large nucleolus. Anaplasia and achromasia are found where the cells are clumped. Here the nuclear membranes were clear cut but the cell membranes were indistinct.

Degenerative red blood cells and phagocytic cells with granules of blood pigment were found in all these conditions.

The *benefits* to be derived *from cytological examination* besides aiding the diagnosis are 1) It makes the surgical removal of tissue for biopsy unnecessary and 2) It makes the surgeon aware of the definite existence of carcinoma before operation. If smears are negative, the importance of repeated examinations cannot be too strongly stressed.

Kilgore[16] states that a bloody discharge without a palpable lump still carries a chance of 1:20 or 1:25 of cancer being present. If cancer is not present, then papillary disease is and in his experience papillary disease carries a greater than average cancer danger. He advocates that any woman over 40 with a bloody discharge or papillary disease and younger women with multiple lesions have simple mastectomy to be extended to radical mastectomy if cancer is found.

Shallow Wagner *et al.*[17] found that 18.3% of patients with a nipple discharge had cancer so advised biopsy for all patients with discharge.

E. Infra red Phlebograms Abnormal circulatory relations in the breast occur as the result of carcinoma. Ca produces an increased blood supply to the part. On infra red photography benign lesions do not produce a disturbance or destruction of the phlebographic pattern.[18] In carcinomatous lesions engorgement, tortuosity and serpentine changes of veins may be seen in the involved breast.

F. X-ray Examination of the Breast has been advocated by some but Haagensen[3] feels that the injection of an opaque medium for x-ray study is a dangerous procedure in return for the little value so far gained. Others have studied the breast by lateral and tangential views and later compared the films made with serial sections of the entire surgically removed specimens in an attempt to correlate pathological changes with the architectural details found in the films.[11] This necessitates expert long training in the field, seldom available.

(Continued next month with discussion on Treatment)

Poliomyelitis Immunization

CURTIS CRUMP, M.D.
Asheville, N.C.

Without doubt the only approach to the polio problem is to bend every effort to develop a *safe* and *practical* immunization agent, that will give long-lasting protection against the disease. To that end, we have the possibility of either a killed preparation or a living attenuated virus vaccine.

Dr. Paul in 1952 summarized opinions from the past 20 years at the recent Second International Congress for Polio as follows: "A disease originally regarded as being limited to infants is now no longer confined to infancy. A disease originally considered as mildly contagious is now regarded as *very* contagious—almost as much so as measles. A disease in which the clinical picture was originally thought to be limited to acute paralysis now is regarded as a disease in which only one in a hundred or more of those infected becomes paralyzed—and if the Lansing strain is involved, perhaps one in a thousand. From an endemic disease it has tended to become epidemic and is now a common and periodic scourge, and incidentally, an item of great public interest."

In Pathogenesis three points have been definitely established:

1. The presence of a specific serum antibody is associated with this disease.
2. The serum antibody develops well before the onset of paralysis.
3. A protective level of serum antibody can be produced by artificial means.

From an immunological standpoint, the first consideration is the fact that poliomyelitis can be caused by three immunologically different types of the virus. This suggests that poliomyelitis is not a single disease, but rather one caused by a family of viruses. Each of the three types is capable of causing paralysis in man; each, however, will immunize only against viruses of the same type, but not against members of the other types. These are now referred to as Types 1, 2 and 3, instead of the former designations which were the names of the prototype viruses—Brunhilde, Lansing, and Leon, respectively—that served as the basis for the establishment of the classification into three immunologic types. Thus, for complete immunity to poliomyelitis, it is necessary that there be immunity to each of the three types. This is important because a person who has experienced either a paralytic or nonparalytic infection due to any one of the three

viruses may be presumed to be immune thereafter *only* to a virus of the same type; but, later in life, paralysis may ensue upon exposure to either of the two other types. This is the reason why two paralytic attacks can occur in the same person and why poliomyelitis can occur in an older person who may in the past have been exposed to one or two types but not all three.

Dr. Herald R. Cox states that killed vaccines of this type, prepared from infected central nervous tissue, may be dismissed immediately from practical consideration; first, because poliomyelitis virus cannot be concentrated and readily freed of the nervous tissue components which are responsible for producing allergic encephalitis; and second, it is doubtful that enough monkeys are available to produce such a vaccine in the necessary quantities. Common sense dictates that we should profit somewhat at least from the sad experiences we have had with rabies vaccines prepared from nervous tissues and not risk inducing the same paralytic accidents with a vaccine for poliomyelitis.

At the same time Dr. Cox points out that any vaccine prepared from tissue cultures which contain mammalian cells taken at surgery or from sacrificed animals must of necessity be killed vaccine. Because of the inherent danger of picking up extraneous contaminant viral, rickettsial, bacterial or carcinogenic agents, it would be unwise and impractical for anyone charged with the responsibility of commercial vaccine production to assume the risk of producing a living, modified virus vaccine from explanted tissues derived from a mammalian source.

Recently, Salk reported preliminary experiments wherein he vaccinated approximately 161 human volunteers with formalin-killed vaccines prepared from tissue culture materials using either minced monkey kidney or monkey testicle. A water-in-mineral oil emulsion type of killed vaccine prepared from all three types of poliomyelitis virus (Brunhilde, Lansing and Leon) was claimed to induce antibody response against all three types when the vaccine was administered intramuscularly. The antibody levels of the vaccinated subjects were determined by tissue culture technique.

Salk also indicated that mineral oil adjuvant was necessary to make the tissue culture virus antigens become immunogenic, and that vegetable oils could not be used as a substitute for mineral oils. It is difficult at the moment to evaluate fully Salk's results, for many of his experiments were not completed when his report was published. However, Dr. Cox stated that he believed it is not out of order to utter a word of caution about certain potential complications that may arise from such a vaccine preparation. While animal experiments have failed to demonstrate any carcinogenic action of certain highly refined paraffinic mineral oils, especially Russian or Pennsylvania oils, which are essentially free of aromatic compounds, there is always the possibility that malignant tumors *might* occur in particularly susceptible individuals. Furthermore, it should be remembered that mineral oils are not saponifiable and that they behave essentially as a foreign body in the tissues of the host. They are not hydrolyzed but remain unchanged and physiologically inert for long periods of time, probably for life, regardless of how administered. The reactions to such oils

have been described as foreign body granulomata, benign oil tumors, oleomas or oil cysts, which sometimes result in slow-healing abscesses.

Still another approach towards solving the poliomyelitis problem is to develop a living modified virus vaccine. Without doubt the most practical and greatest success in immunizing man and animals against viral infections has been achieved thus far with the use of living modified or attenuated viruses. In the case of human infections Dr. Cox points out specifically smallpox, yellow fever and rabies and others in the case of veterinary medicine.

Returning to the problem at hand; namely, poliomyelitis, a review of the literature indicates that *the two most promising* paths for inducing immunity are the *intramuscular* and *oral* routes. Further, evidence obtained in the use of other living virus vaccines strongly indicates the importance of using the natural portal of entry whenever possible to achieve maximal beneficial effects of the immunizing agent.

We now recognize that large epidemics of paralytic poliomyelitis in certain countries are apparently a reflection of improvement in sanitary conditions. By improving our living habits we have altered or upset Nature's balance so that instead of having a symbiotic relationship between the host and the infectious agent, we have actually created a non-immune population wherein large epidemics of paralytic poliomyelitis can be expected to occur. In those parts of the world that have not improved their living and sanitary habits poliomyelitis epidemics are apparently rare and relatively unimportant, and paralysis when it does occur is almost always limited to children of the younger age groups. As the virus is very widely distributed in these so-called "under-privileged" areas, most people come in contact with it while they are quite young and progressively acquire their immunity in all probability through infection by way of the oral and gastrointestinal routes so that paralytic poliomyelitis in these countries is comparatively rare. Dr. Cox states that in his opinion probably the most logical and practical way to immunize infants and children against poliomyelitis is to follow the pattern that seems to take place so universally under natural conditions; that is, to use an attenuated, living virus under biologically and quantitatively controlled conditions by a natural portal of entry—the oral route.

Dr. Cox further states that while he subscribes fully to the thesis that the use of living, attenuated virus offers the most logical and hopeful approach towards solving the poliomyelitis problem, he is of the opinion that the virus should not be propagated in infected mammals and not in infected mammalian explanted tissue cultures until other approaches have been exhausted. Those responsible for producing vaccines commercially recognize that such infected mammalian tissues are not ideal to use because they always present the danger of being contaminated with other viruses or microbic agents that are infectious for man. These include lymphocytic choriomeningitis, infectious hepatitis, Sabin's B Virus, encephalomyocarditis viruses, et cetera.

Dr. Cox believes that the poliomyelitis problem would be greatly simplified if the developing chick embryo could be used as the propagating medium since it has proved to be so

nearly the ideal host for mass-producing many other living attenuated viral vaccines, such as yellow fever, smallpox, rabies, etc. But the live attenuated vaccine developed in chick embryos has only been successful in developing Type 2 vaccine.

Dr. Cox emphasizes that no one, at the present time, can predict when a practical and satisfactory vaccine will become available for use. To attempt to make such a prediction at this time would be folly because a tremendous amount of work yet remains to be done. However, the tools for accurate, quantitative work are now available to accomplish the task. Dr. Cox and his colleagues are more confident than ever that eventually all three major types of poliomyelitis virus will be grown in the developing chick embryo. They believe that a living, attenuated virus vaccine, comprised of all three major types of poliomyelitis virus propagated in chick embryos, and administered by the oral route, offers the most hopeful, practical and safe procedure to follow for the immunization of children.

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AN EXERCISE IN DIAGNOSIS— THE CASE REPORTS

In addition to our regular quota of original articles, "Refresher" articles and departments, this issue, and every issue, contains selected Case Reports from the Clinico-Pathological Conference at New York University-Bellevue Medical Center. You will find them on pages 551-559. We recommend these studies as interesting and stimulating.

The School Doctor Considers The Emotionally Troubled Child

EDWARD R. COX, M.D.
Coalinga, Calif.

Growth and development of children are concerned with the whole child. When we speak of physical, mental, emotional or social development we cannot consider one without keeping in mind the implications of all the others. Growth is not just a biological phenomenon. Along with physical growth the higher centers in the cerebrum develop and learning capacity is augmented. At the same time the seat of emotions, the thalamus or the hypothalamus, grows apace together with the distribution in the autonomic nervous system. The ultimate fate of development is dependent on the original hereditary state and upon the freedom from injury whether it be physical, bacteriological, psychic, or inherited and idiopathic. A child, then, is the product of his inheritance molded by his environment, with all the good or bad influence which might affect either of them.

Granting that a child's inheritance is the basis from which all development proceeds, it would be folly to stop at this point. What happens to the child before, during and after birth are all important. Emotional development, physical, social, and mental, is dependent upon the various situations arising in everyday experience from the time of inception to puberty.

The fortunate parent whose child has escaped serious accident during birth, or before, now faces a trying time of post-partum personality development. One who has gained self-reliance and a belief in her own worth usually excels. Such a parent feels less need to preserve herself in the child and is therefore able to encourage him to be a person in his own right gradually developing from the state of dependence to independent action.

Parents, however, have a predilection for attempting to mold their children into a pattern which they consider as desirable. It all too seldom occurs to them that children are differentiated beings having perhaps different capacities, talents and abilities than they have. It is a new idea to them that these attributes must be discovered and exploited. Most parents find it hard to believe that the similarity of physical resemblance is not further evident in the inherited behavior of their children. "He is just like his father," or "A chip off the old block", and so on.

Furthermore parents have an almost universal belief that their children are a part, perhaps the dearest, of their

possessions. As such, children often become chattels to be directed according to the whims and fancies of the owners. Possessiveness leads to overprotectiveness or to its equally destructive counterpart, an over demanding attitude.

No one would deny the parent's function in guiding the child to proper and accepted behavior. Such guidance is designed to develop acceptance of the cultural influences, the laws, rules, taboos, and rituals, which act as curbs to primitive instinctual urges. Limitations are necessary. They restrict instinct expression. Most children readily accept these limitations if their own emerging capacities for dealing with them have been promoted and developed. They gradually learn the satisfaction gained by their ever increasing mental capacity for control over emotional responsiveness. With proper backing and encouragement they come to accept separation from mother and some inevitable deprivations. Gradually they come to recognize desires as something inside themselves and things in the environment which oppose or satisfy as outside and since situations cannot always be altered it is best to try to accept them realistically. The child's readiness to accept cultural influences is determined by whether he was goaded into acceptances or influenced in a more benign manner and yet not encouraged to prolong the infantile period of dependency.

Mothers often strive to maintain the illusion of the child as a baby and fail to give direction to the child's awakening sense of being a person who has a life of his own to lead. These mothers take great delight in anticipating the child's needs and, instead of encouraging early efforts in performance of the simple acts necessary to daily living, do most everything for him. This is the "spoiled child". Not spoiled because of the affection showered on him but because the affection is morbid to the extent that there is interference in his development. He is prohibited from performing for himself and having the necessary experiences in the growing up process. An apt descriptive term often applied to him is the "smothered child". Such a child is the result of the misconception that the period of dependence necessary to the growth of all human beings must be prolonged almost indefinitely. Mothers who feel this way have undoubtedly failed to mature; failed to accept life in terms of reality; failed to become thoroughly self-reliant. Their dissatisfaction and vain wishful thinking prompts them to be too possessive and to fancy the child as a projection in their own image. Human beings must pass through a stage of dependency but it can very easily be prolonged beyond the stage when the beginnings of independence should be encouraged.

Another unfortunate child is the product of a perfectionist mother. Taskmaster methods are substituted for moderation and lenity in discipline. These hard to please mothers are continually after a child with, "don't, musts, must nots", and nagging, fussing and scolding. Common sense attitudes are minimized. It makes little difference whether the child is wanted or not, the drive of such parents and their preoccupation with the idea of discipline for its own sake completely smothers natural affection. The rigidity of action is based upon the parent's own sense of dissatisfaction arising no doubt under quite similar situations in the parents'

own childhood. In this case one of the child's most dominent needs, love, affection, and acceptance has been withdrawn. Obviously the child has little chance of developing in his own right, satisfying his own hopes and aspirations.

Both the overprotected and neglected child, for different reasons, acquire a sense of insecurity. A state of anxiety may result or at least there is a little likelihood that the child will evolve a belief in his own worth and develop self-assurance. The reactions which the child primarily presents are the defense mechanisms which are finally recognized as the symptoms of a neurosis. There are two generally recognized reactions, one of attack and the other retreat. The one presents hostility, attempts to level authority, temper tantrums, sullenness, sulkiness, obstinacy, perversity, or bellicosity and quarrelsomeness. The other is shy, timid and fearful. He may express fear of darkness, storms, heights, animals, closed places or fears may be evident only in nightmares, thumbsucking, stammering, sleep-walking, nail biting, falling attacks, enuresis and habit spasm. He may frequently complain of headaches, spasmodic abdominal pain, nausea, vomiting, tachycardia, and weakness. Any child may have one or two of these symptoms but if he has four or more he is an anxious neurotic child.

The resentful, hostile child gives the impression of arrogance and self-assurance and of being afraid of nothing. Actually he is fearful and uncertain. The attack reaction is an illusion. And it is the anxiety and the uncertainty which needs treatment.

As a child grows his way of relating himself to his parents changes. Emotional disturbances are evolved by the parent's unwillingness to accept these growth changes. Inevitable tensions occur which result in a sense of inadequacies for both parent and child. Resistance to change is usually dependent on growing only in terms of individual acceptance and not according to established rules. It follows, then, that perpetuating infancy and retarding emotional growth results in negative and aggressive behavior. It is responsible for retreat into illness. Eventually it is the cause of half the distressing symptoms which prompt the patient to visit his doctor.

The spoiled child and the oppressed child represent possibly the majority of emotionally disturbed types which are found among school children. There are other unfortunate children due to failure on the part of their parents in providing the proper love necessary to build an adequate sense of security in the child's mind. A parent may be ineffectual for many reasons—broken homes, hate and indifference in one spouse for the other, general ignorance, mental deficiency, chronic disabling illness in one or the other parent, frustrations of parents or inadequate development and maturity of parents.

Emotional tensions are responsible for the major part of retardation in the learning process in schools. Perhaps something like thirty percent of all children never learn to read. A comparatively small number have mental incapacities or physical defects responsible for this retardation. Educators and health workers in schools are gradually coming to realize the important part that emotional disturbances play. Parent groups have for a long time been increasingly expressing their awareness of the failure in the learning process in so

many children. These parent groups usually attribute the failure to the newer educational methods. Parent bodies are becoming increasingly vociferous in clamoring for older methods of treatment of the three R's. As a matter of fact more than 66% of the school children are flourishing under the newer and more easily applicable methods. This corresponds very closely to the percentage of so-called "normal" children with good emotional adjustments. Children who are free of the inner compulsions which clutter up their thinking. Healthy children emotionally, mentally, physically. Fortunate children indeed!

There are many reasons why the rehabilitation of the emotionally troubled child is beset with almost insurmountable obstacles. Probably the first of these is that most of the deep seated reasons for anxiety and emotional tension lie in the unconscious. We very seldom consciously determine our own behavior. The influence of the unconscious is tremendous. Special techniques and skills are necessary in dealing with it. Secondly any plan for treating the child must also include the parent and a betterment in the parent child relationship. It may be stated without fear of disagreement that if the approach to treatment of the problem child has its difficulties then the approach to his parent has even more.

In most cases, however, both of these difficulties could be resolved quite satisfactorily if it were not for other difficulties. First the average general practitioner confronted by symptoms of emotional abnormality not accounted for on a physical basis is likely to belittle the whole matter and tell the parents not to worry about it or refer the patient and his parent to a psychiatrist without adequate explanation for the need. Secondly, if the patient goes to a psychiatrist, the cost of private consultation is usually in excess of the average patient's ability to meet it. Thirdly, the patient is finally directed to a Child Guidance Clinic where he learns that it may be months before his case can be considered.

All these difficulties, too, could probably be resolved if the practitioner would brush up on minor psychiatric problems. A few comparatively short conferences first with the parent and then the child, properly directed, could fill a gap in medical services as now practiced. A whole host of unfortunate children, their parents, their teachers, could properly be served.

Parents of these children, who have failed to realizes the changes manifested by growth and development and the consequent conflicts arising between parent and child, have a deep sense of inadequacy and guilt. Any critical attitude designed to call attention to the parent's shortcoming can only arouse resentment. Insight into the reasons no matter how perceptive and keen doesn't help. The parent doesn't want to be reminded of such painful matters. They have been repressed.

The parent can, however, be encouraged to verbalize his or her guilt and inadequacy feelings. A tolerant and sympathetic physician can very often build assurance by letting the patient tell of his fears, frustrations and failures and perhaps what he feels to be his sins. The patient gradually gains insight in talking the matter out. Dawning realization of the changes occurring in the child and his efforts to pull away toward independence occurs. The most effective method of treating emotional prob-

lems in children is through the parent.

The child, too, needs some encouragement from others entrusted with his welfare. His teacher and his physician must play a role. There must be tacit respect for his confidences. Next to helping his parents to accept him there is much that can be done to allay his fears. He may fear his own conscience, that he may be punished for being bad. He may fear his own helplessness and dependency. He may fear the unknown in any new situation; a first visit to a classroom; punishment by staying after school; a visit to his physician; a bully in the neighborhood or on the school ground; a criticism by his teacher; being exposed to ridicule; undue exposure before the class; unwittingly being singled out for attention; failure to maintain standing with classmates. There are more than we, as adults, imagine.

It isn't his fear that needs to be allayed so much as his resources for dealing with it that needs attention. Developing his capacity for meeting new situations and helping him participate in opinions about his dilemmas are most important.

Summary

Emotional growth toward a more mature attitude will follow when parent-child conflicts have been dissolved. The child then feels free to follow his own bent, tempered by reality and reason, toward maturity.

Coalinga-Huron Union Elementary School District Office Sunset and Baker.

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Cosmetics and Dermatitis

Louis Schwartz, M.D.
Washington, D.C.

The use of cosmetics antedates civilized man. Even today savage tribes in Africa and South America use crude cosmetics. Although it is said that records indicate the use of cosmetics by the lost Atlanteans, the first authentic records of the use of cosmetics are on papyri found in the tombs of ancient Egypt.

The ancient Egyptians used in cosmetics animal fats, natural resins, metallic pigments, iron oxide, mercuric sulfide, lead salts, carbon black, etc. They used perfumes — frankincense, myrrh, thyme, cinnamon, cardamom, olibanum, spikenard and other natural perfumes. Henna was used to dye the hair, color the palms, soles and nails. There are many references to the use of cosmetics in the Bible. The ancient Greeks used and were well versed in the manufacture of perfumes. They dyed the hair, rouged the lips and cheeks. The Carthaginians and the Romans also used cosmetics. Galen and Pliny give formulae for making cosmetics and perfumes. Italians, both men and women, in the Renaissance used cosmetics. Despite the widespread use of cosmetics in those days, the practice was more or less frowned upon as attempting to simulate youth and health and thus deceive the opposite sex. However, in China and Japan women have used cosmetics from the earliest times without any stigma.

Today the use of cosmetics by women is universal. They are used to improve the appearance of the skin, to conform to style, and often to improve the morale. The use of cosmetics is altruistic because it makes people more agreeable to others, in sight, touch and smell. In the United States three billions are spent yearly on cosmetics.

When we consider that the use of cosmetics is universal, the incidence of dermatitis caused by them is negligible and compares favorably with the incidence of food allergies. While the incidence of dermatitis from cosmetics is small, the actual number of cases is large because of the hundreds of millions of users. However, just as in the case of outbreaks of ptomaine poisoning, occasional outbreaks of dermatitis have occurred from particular cosmetics. For instance, the outbreaks of dermatitis from the early uncontrolled and unskilful use of paraphenylenediamine as a hair dye and from salts of thioglycolic acid for permanent cold wave; the outbreak of cheilitis

from the early indelible lipsticks, and the cases of dermatitis and nail damage from nail lacquers and nail lacquer bases. Today these preparations are all widely used without an undue incidence of untoward effects. This is the result of improved manufacturing techniques, improved methods of pre-use testing, and laws requiring adequate directions for use and warnings as to untoward effects if directions for use are not followed.

Cosmetics as a class, if properly used, are relatively harmless to the user. Although primary irritant chemicals, such as strong alkalis and phenolics, are used in some cosmetics, as in hair dyes, hair bleaches, hair wavers, depilatories, etc., the directions given for use, if followed, will prevent dermatitis. The principal factors in the cause of dermatitis from cosmetics are failure to properly use the cosmetics or hypersensitivity of the individual, leading to allergic contact dermatitis. There is practically no cosmetic to which some one may not acquire a sensitivity. Creams, rouge, face powder, lipstick, perfumes, dental cleaners, mouth washes, freckle removers, nail lacquers, soaps, and hair preparations have all been reported to have caused dermatitis.

Cosmetics as a Cause of Occupational Dermatitis Occupational dermatitis is rare among workers manufacturing cosmetics. In a survey of cosmetic manufacturing plants employing several thousand workers, there were no cases of occupational dermatitis at the time the workers were examined. However, occupational dermatitis among barbers, hair dressers, manicurists and beauticians is not uncommon. Occupational dermatitis of the hands is not infrequent among such professional beauticians and is caused by frequent intermittent contact with soaps, shampoos, hair tonics, dyes, wavers, bleaches, depilatories, etc. These hazards can be markedly diminished and even entirely eliminated if frequently cleaned rubber gloves, impervious sleeves and aprons are worn by the operators. Systemic poisoning from cosmetics (cold wave) has been reported by one physician who cited five cases. The symptoms were mild and the attributed cause was not proven and is questionable. Another case of death was attributed to the absorption through the scalp of hydrogen sulfide generated by a hair waving chemical (ammonium sulfide) which is no longer in use.

Dermatitis from Cosmetics Among the Users If toilet soaps are considered as cosmetics, they lead the list as causes of dermatitis not because they are highly irritant but because they are universally used. Soaps tend to soften and swell the keratin, and to remove the natural fats and oils which make the skin soft and pliable. Soaps and detergents tend to denature keratin, especially if used so frequently that the protective sebum is washed away more rapidly than it is replaced by the skin glands, thus exposing the sulfhydril groups of keratin to the action of the detergent. In addition to this, some soaps contain perfumes, deodorants and antiseptics to which some users may become sensitized. Deodorant and antiseptic soaps have not infrequently been reported as causing dermatitis.

Dermatitis from soap usually occurs on the hands, although the entire body may be affected. When a particular soap is suspected as the cause of dermatitis, covered patch tests with a 0.25 per cent solution of the soap, using

the same strength solution of Ivory soap as a control patch, may be performed on the patient. The sealed patch may remain on the skin for 24 hours. If there is a reaction from the suspected soap and no reaction from the control, the patient is hypersensitive to that soap. If there is also a reaction to the control soap, the patient is hypersensitive to soap in general. If there is no reaction under either patch, replace the patches for another 24 hours. If there are still no reactions, then allergy to the soap is not the cause of the dermatitis.

Patients who are soap sensitive may use other skin cleansers. There are available a number of soapless detergents; sulfonated castor oil and other sulfonated vegetable and mineral oils. Some sulfonated oils, like superfatted soaps, contain an excess of unsulfonated fatty oils to buffer the defatting action of the cleansers. The non-ionic, anionic and cationic detergents may also be tried. Trial of the various soapless skin cleansers may result in finding one which the patient can use without damaging the skin. If none can be found, the use of olive oil, castor oil or corn oil may be tried until the skin recovers sufficiently so that the previously named detergents may be used.

Hair Preparations Preparations used on the hair which may be classified as cosmetics are shampoos, hair tonics, hair wavers and straighteners, and hair dyes.

Shampoos may consist of simple solutions, emulsions or creams of a good lathering soap such as is made from coconut oil and potassium hydroxide. Other vegetable oils such as olive oil, palm oil, almond oil, and sesame oil may also be used. Water softeners, such as sodium hexametaphosphate and ethylene diamine tetra acetic acid may be added. Skin, hair and eye damage from such shampoos has not been reported.

The new synthetic detergents are also used to make the "soapless" shampoos. The synthetic detergents are classified as Anionic, Cationic and Non-ionic. The Anionic and Non-ionic are miscible with soap and are often used in combination with soap. Dermatitis from shampoos made of Anionic and Non-ionic detergents is rare.

The Cationic detergents, also known as quaternary ammonium compounds, are used in some of the newer shampoos. The Cationics are not miscible with soap or with the Anionics, but will mix with the Non-ionics.

While dermatitis from shampoos is rare, eye damage has been reported from shampoos containing certain Cationics. Therefore, shampoos containing the synthetic detergents should be tested by the manufacturer for possible eye irritation before being placed on the market. This is done by instilling 0.1 cc. of the shampoo into one eye of an albino rabbit and instilling, as a control, the same amount of a 10 per cent aqueous solution of soap into the other eye. A preparation causing corneal or iris lesions or conjunctivitis which have not completely cleared by the seventh day after instillation is dangerous and should not be sold.

Hair Tonics Hair tonics should be classified as drugs rather than cosmetics. Dermatitis from their use is fairly frequent. This is only to be expected when it is considered that they are meant to contain chemicals which act as counter-irritants and antiseptics. The following is a partial list of irritant chemicals likely to be ingredients of

hair tonics:

Tincture of capsicum
Tincture of cantharides
Salicylic acid
Oil of cade
Coal tar
Resorcinol
Beta-naphthol

In addition to the above, quinine and pilocarpine may be ingredients of hair tonics on the false basis that they stimulate the growth of hair. The truth is that while hair tonics may temporarily clean the scalp of dandruff and increase the circulation of blood in the scalp, there is no preparation known at present which will cure familial baldness. In cases of temporary hair loss due to debilitating illness, or to alopecia areata, the use of a suitable hair tonic may accelerate the regrowth by increasing the circulation of blood in the scalp.

In patients where dermatitis of the scalp or face is suspected to be caused by a hair tonic, open patch tests are indicated because closed patches sealed on the skin for 24 hours, of hair tonics containing such irritants as named above, will always cause primary irritation reactions.

Hair Wavers and Straighteners

That wavy hair is more beautiful than straight hair seems to be the opinion of most Caucasian females. On the other hand, straight hair is preferred to kinky hair, among Negroes. The old procedure in waving hair was to first shampoo it to remove the natural grease, then wind it tight around rollers, around the rollers wrap a strip of paper or fabric, moisten it with a suitable solution (usually alkaline), and enclose it all in an electric heating device and steam for a suitable time. Chemical heat generating agents, such as calcium oxide, ammonium salts, zinc salts, etc., were also used to avoid the risk of electric shock. The hazards from such methods are heat and electric burns.

Recently cold waving solutions have been introduced and their popularity has grown. The active ingredients in the earlier cold waving solutions were sodium and ammonium sulfide and sodium carbonate, but the present ones consist chiefly of ammonium thioglycolate. These chemicals have the property of disassociating the sulf-hydril linkages in the keratin molecule, thus taking the elasticity out of the hair and softening it so that it readily adapts itself to the roller around which it is wound. Then an oxidizing agent, such as a per salt or a bromate, is applied and the hair adapts and holds the curve imparted to it by the roller. The oxidizing agent (neutralizer) is not necessary, provided the hair is kept on the curler long enough until the oxygen of the air performs the oxidizing, a matter of having the hair on the curler for several hours instead of a few minutes, as where the oxidizing agent (neutralizer) is used.

The hazards from the cold waving solutions are broken hairs, when the solutions used are too strong or left on too long, or if the hair is finer than normal. Dermatitis of the scalp and face may occur but is comparatively infrequent. It is in most instances due to primary irritation from alkaline solutions or to alkali hypersensitivity, but allergic dermatitis is also possible.

In cases of alopecia or broken hairs due to cold wave, the damage does not extend below the scalp and the hair always regrows, just as it does after it is singed or cut. If the hair does not regrow, then there must be some under-

lying cause for the alopecia other than the cold wave, i.e., alopecia areata, debilitating illness, folliculitis decalvans, lupus erythematosus, etc. In order to test for hypersensitivity to the cold wave solution, closed patch tests may be performed with the commercial home cold waves. Left on for 24 hours, they should cause no reaction.

Hair Straighteners These are used mostly by the colored race to straighten kinky hair. They may consist simply of perfumed vaseline or of gum solutions such as Karaya, Tragacanth, Gum Acacia, Sodium Alginate and mucilages of Quince Seed or Pectin. Such solutions are harmless, although allergy to Karaya gum has been reported. However, sometimes strongly alkaline solutions of sodium hydroxide, sodium carbonate and ammonia are used to help soften the hair before it is combed with a heated combing or straightening device. This may cause dermatitis, broken hairs and burns. Ammonium thioglycolate solutions are also used to soften the hair before straightening and they can cause the same hair damage and dermatitis as when they are used as "cold waves."

Hair Lacquers These are used to hold the hair in certain coiffures or to keep stray locks in place. They may consist of alcoholic solutions of such resins as shellac, benzoin, rosin or synthetic resins and of aqueous solutions of a water soluble shellac, tragacanth, karaya or other water soluble resins. The hair lacquers containing rosin and synthetic resins may cause dermatitis.

Hair Dyes Hair dyes have been used since ancient times. The hair dyes used by the ancients were derived from plants. Hair dyes of today may be classed as vegetable dyes, metallic dyes and synthetic dyes.

The principal vegetable dyes in use are henna and camomile. Henna is the powdered dried leaves of the plants Lawsonia inermis, spinosa and alba. The color is red-orange and the active ingredient is 2-hydroxy, 1, 4-naphthaquinone (Lawsone). By mixing with extracts of other plants, such as indigo, quebracho, logwood, sage, etc., various shades are obtained. Henna is also used in hair rinses.

Camomile is derived from plants of the genus Anthemis, chiefly Anthemis nobilis and Matricaria camomilla. The active ingredient is 1, 3, 4-trihydroxyflavone. It is used as a lightening rinse. The vegetable hair dyes have not been reported as causing dermatitis.

Metallic Hair Dyes Lead is the metal most frequently used in hair dyes. It is used in the form of a solution of lead acetate or lead chloride to which precipitated sulphur is added and it acts as a slow or progressive dye, taking many daily applications to slowly dye gray hair, first a yellow, then brown, and finally black by forming lead sulfide on and in the hair shaft. The lead dyes are sold for home use and while they do not cause dermatitis, they are a possible cause of lead poisoning by accidental ingestion from soiled fingers.

Other metallic salts used as hair dyes or hair dye modifiers are silver nitrate, nickel sulfate, cobalt nitrate and ferric chloride. Dermatitis is possible but rare from metallic hair dyes. There may be skin hypersensitivity to nickel and cobalt and argyria from the absorption of silver.

Synthetic Hair Dyes Although many synthetic dyes are used in the so-called hair rinses, paraphenylenediamine is the principal permanent hair

dye in use today. It is used in cosmetic parlors and at home and it is estimated that more than fifty million applications of P.P.D. hair dyes are made yearly in the United States.

When P.P.D. was first used as a hair dye in Europe (about 20-30 years ago) the incidence of dermatitis reported from its use was so high that in Germany its use as a human hair dye was forbidden, and in other countries laws were made to regulate its use. Some of the dermatitis was caused by impurities and uncombined chemicals remaining in the dye. In the United States its use as an eyelash or eyebrow dye is forbidden and hair dyes containing P.P.D. must be so labelled and the package must contain warnings of possible dermatitis. The package must also contain instructions to perform a patch test with the dye before using it, and give directions as to how to perform the patch test. The manufacturers of P.P.D. are now making a much purer product than formerly and the hair dye manufacturers have dermatologists perform "prophetic patch" tests before placing their product on the market. As a result of these precautions the incidence of dermatitis from hair dyes containing P.P.D. metatoluylenediamine and paratoluylenediamine has fallen from early reported incidence of 6 per cent to about 1 case to each 40,000-60,000 packages sold.

P.P.D. $C_6H_4(NH_2)_2$ is a colorless crystalline solid readily soluble in water and is only a dye when oxidized. If exposed to the air, it will slowly oxidize and turn dark. In the course of oxidation various transient irritant unstable compounds are formed of which quinone diamine $C_6H_4(NH)_2$ is said to be the most irritant. The final oxidation product, a stable black compound known as Bandrowski's base $C_6H_4[N\text{-}C_6H_3(NH_2)_2]_2$, is inert.

P.P.D. hair dyes are sold in two bottle packages. One bottle, the "tint," consists of an aqueous solution of P.P.D. to which is added ammonia and perhaps resorcin, para-amino phenol and other chemicals in proportion to the shade desired. The other bottle, "color developer," consists of a solution of hydrogen peroxide or other oxidizing agent. The contents of the two bottles are mixed before use and allowed to stand for about five minutes so that the dye is oxidized before applying to the hair. In applying the dye special care must be exercised to keep it off the skin and out of the eyes. About 20 minutes after the dye has been applied, the hair is shampooed to remove all excess dye.

Dermatitis may result from the ammonia, and the other chemicals in the dye. The inflammation affects the scalp, face, ears, neck and in rare instances a generalized macular eruption may occur. Conjunctivitis and keratitis have also been reported, especially from use on the eyelashes and eyebrows. The history of using a hair dye followed by a dermatitis of the scalp and face leads to the suspicion that the dye is the cause. To confirm the diagnosis a package of the dye should be purchased, mixed according to directions and an open patch test should be performed on the patient by painting the mixture of the contents of the two bottles on the skin in front of the elbow covering an area about one inch in diameter. The site should be allowed to dry and observed for three days for a possible reaction. If the dye is the cause of the dermatitis, the reaction usually occurs in less than 24 hours, but sometimes the reaction

takes longer to develop. If no reaction occurs at the end of 72 hours, in the presence of an active dermatitis on the scalp, face, etc., it is illogical to accuse the dye.

Patients developing dermatitis from modern P.P.D. dyes have usually not followed the directions given in the package. Mostly they have failed to take a pre-use patch test as directed. Sometimes they have failed to properly shampoo the hair after dyeing or they have failed to remove whatever dye may have soiled the face.

Undoubtedly there are some cases of dermatitis even if directions for use are explicitly followed, but as stated before the incidence is exceedingly low and in such cases it is due more to the unfortunate and unusual allergic condition of the patient rather than to the chemicals in the dyeing solution.

Nail Lacquers Nail lacquers are in universal use and the incidence of dermatitis from them is very low. Nevertheless reports of dermatitis from nail lacquers have frequently appeared. Dryness, brittleness and splitting of the nails from the use of nail lacquers is not uncommon. Several years ago there were reports of a peculiar hyperkeratosis under the nail, hemorrhage in the nail bed, and loss of the nails from the use of a long lasting nail lacquer base containing synthetic rubber and a phenolic resin, which was advertised to stay on the nails for several weeks.

Dermatitis from nail lacquers usually occurs on the face, neck and parts of the body habitually touched by the lacquered nails. It is usually due to hypersensitivity to the synthetic resins and the dyes contained in the lacquers. The resins are usually of the sulfonamide-formaldehyde or phenol formaldehyde type and some of the dyes are fluorescent and photosensitizing. The latter may explain why the dermatitis from nail lacquer most frequently appears on the exposed skin. The drying and splitting of the nails is said to be due to the dehydrating and defatting effect of the lacquer as well as to the sealing effect of the lacquer on the nail, preventing the normal evaporation of moisture.

When performing patch tests with nail lacquers, they should be painted on the skin and allowed to dry and left uncovered and exposed to the light. If closed patch tests are done, the lacquer should be placed on a piece of gauze, allowed to dry and then applied to the skin. After the patch is removed the area should be exposed to sunlight for 1-2 hours before the reaction is read. Sealed patch tests with the liquid lacquer may give false positive reaction because of the long action on the skin of the lacquer solvent, mainly acetone.

Lipstick Cheilitis from the use of lipstick was not uncommon in the first years after the introduction of the so-called "indelible" and "kiss-proof" lipsticks. They contained brom-fluorescia, an indelible, fluorescent, photosensitizing dye and the cheilitis was due mostly to induced photosensitivity and impurities in the dye. It was not uncommon for many users of lipstick to have a mild desquamation or cheilitis of the lips. Nowadays the dye is purer and contains inert pigment lakes, and cheilitis from lipstick is rare.

Lipsticks consist essentially of a base made up of cocoa butter, lanolin, castor oil, waxes and perfumes, which act as the vehicle of the dye. In addition, they contain a pigment lake which shows the shade of color to be imparted to the lip. The dye in the modern lipstick is

purer and less likely to cause cheilitis than before, and the pigment lake and vehicle base protect the lip from exposure to light. Cheilitis has also been reported from the perfume in lipstick and from contamination of the lipstick by the metal of the container. Dermatitis of the face has been reported from lipstick when it was used by children, clowns and others as a face rouge.

Lipsticks may be used as closed patch tests on the skin, but if there is no reaction when the patch is removed, the site should be exposed to sunlight for several hours to permit the possible reaction of photosensitivity.

Anti-Perspirants and Deodorants Anti-perspirants and deodorants are usually used in the axilla, although they can be used anywhere on the body. Deodorants are not necessarily anti-perspirant. The simplest topically applied deodorant is perfume, which acts to mask offensive odors. Zinc peroxide and sodium perborate in powder form have the double action of absorbing odors and destroying them by oxidation. In powder form they can be safely applied to the axilla, groin and under the breasts. Other, but more irritant deodorant chemicals which may be applied to the feet are Chloramine-T, Hexamethylenetetramine and Oxyquinolin Sulfate. The deodorant properties claimed by the many Chlorophyll preparations have not been established.

Most of the so-called deodorants on the market are really anti-perspirants. Aluminum sulfate, aluminum chloride, aluminum phenol sulfonate and zinc phenol sulfonate are most frequently used. They are used in solution, cream, and powder form. A mild perfume is usually added to the preparation.

Dermatitis may result from anti-perspirants and deodorants. Hexamethylene tetramine, Chloramine-T, and the aluminum salts can cause dermatitis, especially in the axilla. There may be a simple folliculitis, or boils or an erythematous vesicular eruption. It can be differentiated from dress shield dermatitis by patch tests.

Depilatories Women use depilatories to remove unwanted hair from the legs, arms and face. Thallium was at one time used as a depilatory but its use was discontinued because it can cause systemic symptoms through skin absorption.

Depilatories for the legs and arms are usually sold as creams and the active ingredient is either an inorganic alkaline sulfide or calcium thioglycolate. These chemicals break up the keratin linkages in the hair, soften and gel it so that rubbing with a towel will break off the hair. The keratin of the epithelial layer of the skin is also affected and if the depilatory is permitted to remain too long, dermatitis will result.

Waxes with low melting points are used to remove hair from the mustache area. They are melted at about 110°F. and applied to the hairs, which become imbedded as the wax cools and solidifies. The wax is then pulled off and the enmeshed hairs are pulled out. Infection of the hair follicles may occur.

Perfumes Many of the concentrated natural essential oils of flowers and plants contain high percentages of terpenes, aldehydes, esters, phenols and other chemicals which are skin irritants or photosensitizers. For example, high concentrations of the limonenes in citrus oils; linalool in many flowers; oils of bergamot, cassia, cinnamon, cloves, etc., may all cause primary irritation. Di-

luted as they are in perfumes, they affect only hyper-sensitive or allergic users. Some of the synthetic perfumes have been reported as causing dermatitis. Examples are methyl heptin carbonate and nitro-benzene.

When perfume is suspected as the cause of dermatitis, closed patch tests should not be used. Instead, repeated daily applications of the suspected perfumes should be made to a site of thin unaffected skin, such as the bend of the elbow or even the skin on the upper eyelid. Some other perfumes reported to have caused dermatitis are oil of angelica root, oil of orris, eugenol, isoeugenol, citral, citronellal, heliotrope, pinene, olibanum and vanillin.

Miscellaneous Cosmetics Cosmetic face creams rarely cause dermatitis. When they do, the cause can usually be found among the following: perfume, lanolin, chemicals used to remove freckles or whiten the skin, such as ammoniated mercury, salicylic acid, monobenzl ether or hydroquinone and excess of alkali.

Cosmetic powders rarely cause dermatitis. Powdered orris root has been reported as one of the causes. It is no longer used in cosmetic powder.

Suntan preparations may cause dermatitis which may be masked by or diagnosed as sunburn. Any of the chemical ultra violet light filters used in suntan preparations may cause isolated cases of allergic dermatitis.

Treatment When the cause of a dermatitis is recognized to be a cosmetic, the treatment becomes simple. Discontinuing the use of the cosmetic will in most cases effect a cure in a few days. During this period the treatment should be palliative. If the symptoms are acute, i.e., edema and vesiculation, cold wet dressings of boric acid solution or Burow's solution 1-20, or aluminum acetate solution 1-1000 should be used. Antiseptics are not indicated unless there is infection because cosmetic dermatitis is a dermatitis venenata and not due to germs. When the acute symptoms subside, soothing ointments are indicated, such as zinc oxide ointment, boric acid ointment, and simple cold cream. Bland oils, such as olive oil, liquid petrolatum, or the sulfonated oils*, may be used to cleanse the skin because soap acts as an irritant to inflamed skin. Complications, such as infections, chronic eczemas, lichenification, etc., should be appropriately treated.

Prevention of Cosmetic Dermatitis The prevention of cosmetic dermatitis begins with the manufacturer of the cosmetic. Cosmetic manufacturers should have the skin irritant properties of new cosmetics tested by competent dermatologists. Appropriate skin tests, either open or closed patch tests (prophetic patch tests) should first be performed on at least 200 subjects. A similar cosmetic long on the market without causing trouble should also be placed on the subjects as a control patch. If there are no positive reactions from the new cosmetic or no more than there are from the control cosmetic, then the new cosmetic should be placed on trial sale in a test community for 2 or 3 months or used by at least 1000 subjects under the observtaion of the physician and whatever complaints of dermatitis are reported should be investigated by a dermatologist. The results of such investigations should determine whether it is safe and profitable to place the new

*Sulfonated oils are miscible with water and can be washed off the skin. Some proprietary sulfonated oils are Detergol, Acidolate, Sulpho-Cleaner, PHs.

cosmetic on the general market.

Patients found to be allergic to a particular chemical in a cosmetic which they use should avoid the use of cosmetics containing it. There are many hypo-allergenic cosmetics on the market which do not contain any of the well-known allergens.** They can be purchased in many drug stores and at cosmetic counters of department stores. It must be remembered, however, that it is possible for some persons to become sensitive to substances even in the hypo-allergenic cosmetics.

Medico-Legal Considerations

Cosmetics are universally used and since there is scarcely any substance to which some one may not be allergic, it is not uncommon to hear complaints of dermatitis from even the most widely used cosmetics. In most cases the sufferer does no more than cease using the cosmetic or buy another brand. Others write letters of complaint to the manufacturer and receive letters in reply saying that the cosmetic is not at fault, and in some instances the cost of the cosmetic is refunded. A small percentage of the complaints are placed in the hands of lawyers and in most instances are settled before trial for amounts less than would be the cost of defending the suits. These are called "nuisance" settlements.

Cases where such settlements cannot be made, come to trial. The plaintiff alleges that the dermatitis was caused by the cosmetic and the statement is usually supported by a dermatologist who in most cases has performed patch tests on the patient to support his diagnosis. The defendant should attempt to prove that the cosmetic is made in the usual manner, from the usual commonly used chemicals; that it has been on the market for many years and the incidence of complaints is low. That if any new or unusual ingredients were used, the product was tested by competent dermatologists on a sufficient number of subjects using approved methods of testing and found to be safe before being placed on sale; that the new cosmetic has been on sale for several months and used by many thousands of users without any more than an occasional complaint; that the legally required caution label and directions for use were given with the cosmetics.

The defendant should attempt to show that the skin test performed by the plaintiff's physician was inexpertly done, i.e., not conforming to the manner in which the cosmetic is used, or no bland substances were placed on the patient to act as control patches, or no control subjects were tested with the same cosmetic; that the plaintiff's dermatitis is either not caused by the cosmetic or is due to an "unfortunate and peculiar abnormal sensitivity of the patient's skin" rather than to the alleged unsafe irritant action of the cosmetic.

The plaintiff's counsel should attempt to show that the plaintiff is not an unusually allergic person and that many other users of the cosmetic have developed dermatitis; that new chemicals were used in the cosmetic and were not properly tested by competent dermatologists and pronounced to be safe before being placed on the market; that dermatologists have proven that the plaintiff's dermatitis was directly due to the use of the cosmetic in the manner directed on the label.

Suite 713, 915 Nineteenth Street, N. W.

**Trade names of some hypo-allergenic cosmetics are Almay, Ar-Ex, Marcelle.

Clinico-Pathological Conferences

New York University-Bellevue Medical Center Post-Graduate Medical School, Department Of Medicine at Bellevue Hospital, Fourth Medical (N. Y. U.) Division

CASE I

Third Bellevue Hospital admission of a 26-year-old white male unemployed waiter admitted 5/21/53 with a:

C.C. "Blacking out night prior to admission."

Previous Admissions 1938—Malnutrition—Fecal Impaction. 1938—Sore throat.

P.I. Four weeks prior to admission, the patient was awakened from sleep by a smothering sensation and shortness of breath relieved by sitting upright. This occurred nightly for two weeks. Two weeks p.t.a., he noted that he required 2 pillows for sleeping but attacks still occurred. Ankle edema noted about this time which progressed to admission. Exertional dyspnea was progressive. No chest pain or hemoptysis. Chilliness and fever noted for two weeks as well as dull aching in the right upper quadrant.

The evening p.t.a., he climbed several flights of stairs and blacked out at the top and sought admission in the a. m.

The patient denies any joint pains or preceding infection. He had gained 18 lbs. in the past 2-3 weeks though appetite was not abnormal.

Revue of Systems. Loss of appetite for 3-4 days. Recently told that his skin looked yellow but patient thought that this was his usual color.

G.I. Normal aside from above.

G.U. Nocturia 2-3 x.

N.M. Weakness and fatigability c. P.I.

P.H. Rejected for the army in 1949 because of heart murmurs. Denies all history related to rheumatic fever, aside from frequent sore throats as a child. Smoked 6-7 cigarettes daily. Drank 12-18 beers daily but always ate very well.

F.H. Denied any significant family history. Was of Slovak extraction.

Physical Examination T 102.8, P 120, R 38, B.P. 104/80.—L.Arm Reclining. Wgt. 138.

A thin anasarcous white male sitting in bed appearing weak, lethargic, dyspneic, pale, slightly yellow and acutely and chronically ill.

Head—E.E.N.T.—Sclerae pale with icteric tint. Pupils react 1 and a. Fundi normal. Lips cyanotic.

Neck—Venous distention which disappears only in 90 degree position.

Chest—Protuberance of the anterior chest wall over the precordium. A hard precordial thrust is felt over the precordium at the p.m.i.-3-4 cm. left of the m.c.l.

Lungs—Decreased breath sounds at the right base. No other changes. Excursions good.

Heart—N.S.T. Rate 126. PMI is diffuse. Grossly enlarged to the left. P1 and P2 accentuated and greater than A1 and A2. Grade III high pitched systolic murmur medial to the left border. A third sound is heard here giving rise to a gallop rhythm in early diastole (? opening mitral snap). At the A.A.L., a short crescendo grade II diastolic murmur at the apex. Forceful precordial thrust.

Abdomen—Liver felt 6 cm. below the c.m. Tender, rounded edge. Spleen not felt.

Extremities—Four plus pretibial edema. Nail beds cyanotic. No petechiae seen.

Fluoroscopy—Lungs and Costophrenic Angles Clear. Diaphragms move well. Heart enlarged in all chambers with a very prominent pulmonary segment. Left ventricle clears the spine at 55 degrees in the L.A.O. Right anterior oblique view with barium swallow reveals left auricular displacement posteriorly.

Hospital Course— Blood cultures x 6 taken the first day and Procaine Penicillin 16,000,000 units daily and Streptomycin 2.0 gms. daily were begun. Digitoxin 1.4 mgms. and a maintenance of 0.2 mgms./day instituted. He continued to spike daily temperatures to 103-104 for six days until A.S.A. gr.x q. 3 hours x 8 daily was begun. Congestive failure and tachycardia were persistent until then. The systolic murmur was fainter and the diastolic murmur could no longer be heard.

5/27 A.S.A. (aspirin) ASA acetyl salicylic acid begun. Rales in both lower lung fields with decreased breath sounds noted. In general felt better after A.S.A. with a drop in temperature to 98-100° daily.

5/29—Right lower chest pain posteriorly with aggravation by respiration. Hemoptysis of approximately one ounce of grossly bloody material. Later sputum became frothy without blood after ca. 12 hours. Examination revealed flatness over the lower ⅓ of the right lung posteriorly with diminished breath sounds. Fine crackling rales in the right axilla inferiorly. Diminished breath sounds over left lung posteriorly. Chest plate taken.

6/1—A.S.A. cut with intention to begin Cortisone. Tachycardia, edema, dyspnea as before. Digoxin 0.5 mgms. daily for three days added to regimen. Mercuhydrin 2 c.c. I.V. 3-2 x weekly. Nausea present.

6/3—Temperature spiked again and Cortisone 300 mgm/day begun with dramatic response to temperature. Streptomycin reduced to 1.0 daily. It was felt that nausea improved since withdrawal of salicylate.

6/8—Apical gallop rhythm no longer heard. Rate 88 and regular. Rumbling diastolic murmur easily heard at the apex. Lungs as before with rales above dullness in right lung posteriorly. No diuresis in spite of feeling of well being. Weight 136#, T-98.

6/13—Patient feeling very well.

Afebrile. Weight 135# Antibiotics cut. All blood cultures had been negative. Mercuhydrin without effect. Digoxin now being used. 0.75 mgms. daily. Dosage of Cortisone reduced to 200 mgms. daily. Digoxin to be pushed to toxicity.

6/17—Afebrile. Pr. 110 c. occ. PVC. Cortisone 200 mgms. daily. Wgt. 135#. Lung signs unchanged. Marked edema. Gallop rhythm-rate 120.

6/22—Afebrile. Weight 129# after 2 days of cation exchange resin. Occasional bigeminy noted in cardiac rhythm. Nausea. Digoxin cut.

6/25—Afebrile. Patient disoriented and confused. Cortisone reduced to 100 mgms. daily.

6/29—Temperature rising slowly since Cortisone reduced. Weight 119#. Tachycardia returning. Lungs, unchanged.

7/1—Cortisone raised to 150 mgms. and patient again become disoriented and confused. Again reducing cortisone with intention to discontinue.

7/6—ACTH being given to cover Cortisone withdrawal but patient again running temperature of 102-103 daily. Weight 106#—stable. Digoxin reinstituted. Rate 92 c. occ. PVC.

7/8—Patient had become lethargic and weak in spite of ACTH therefore Cortisone—200 mgms. per day was reinstituted on 7/8. Dyspnea severe and examination revealed large amount of fluid in right chest. Thoracentesis performed and 1900 cc. sanguineous fluid removed. Dyspnea relieved somewhat.

7/14—Patient has been on A.S.A. gr. xx q. 4 hours for four days with temperature normal to low grade. Right thorax filling with fluid again. Weight 99#. Lethargic, listless, anoretic.

Laboratory Data

Urinalysis

Date	S.G.	Alb.	Sug.	WBC.	RBC.	Other
5/21	1.025	120 mgm%	neg.	3-5		Hyaline and Gran Casts
6/2	1.015	Tr.	1 plus	Occ.	Occ.	Rare Hyaline Cast
7/2	1.010	30 mgm%	neg.	neg.	neg.	
7/23	1.011	neg.	neg.	occ.		

Blood Counts

Date	Hb.	RBc	WBC	Tr.	P.	L.	M.	E.	Smear	ESR	HCT.
5/21	10	4.34	12.9	13	60	17	9	1	Hypochromia Polychromat.	5	40%
5/26	11	4.89	15.9	14	79	3	3	1	" "	3	40%
6/10	12	4.22	20.6	5	86	3	6			10	45
7/1	11.5	4.92	11.8	5	68	22	1			22	41%
7/8	11.0	4.6	16.6							35	41
7/21	9	3.52	16.4	21	67	5	7		Toxic Grans.	55	35

Chemistries

Date	NPN	Sug.	CO2	A/G	Chol/Est.	II	Alk. Pho.	Na.	K	Creat.	P
5/22	53			4.2/2.2	154/65	8	6.4	134	4.3	1.3	2.3
6/15		80						135	4.8		
6/24	31		48 V.P.	4/1/2.8	204/88	28	7.3	140	3.6		2.8
7/7		82						137	4.1		
7/23								126	3.7	0.5	
7/31								122	3.5		

Serology—Negative for Mazzini
Stool—Guaiac—Negative

Cultures—Throat—Strep. viridans
Blood x 6—negative 5/21 and 5/22.

Digoxin 0.5 and 0.75 mgms. on alternate days. Tachycardia persists 100-110.

7/23—Patient looks poorly. T normal to 100°R. Chest plate suggests possibility of an infiltration and breakdown in the right lower lung field. Fluid still present in lung field, though less than previously. One pint of whole blood given.

7/23-7/31—Serum Na levels low. Lethargic, weak, dyspneic, Nausea and occasional vomiting. Weight 101#. Progressively weaker and dyspneic and expired on 7/31.

Chest X-Rays

5/27—Enlarged cardiac silhouette with rheumatic pattern. Bilateral pulmonary edema. Mesial right lower lung field suggestive of pneumonitis.

6/16—Lungs markedly congested. Pneumonic consolidation in mid and lower right lung fields—probably overlying fluid.

7/14—Fluid level in the right lower lung field. Above fluid is dense consolidation. Congestion in remainder of right lung field and entire left lung field. Pleural effusion decreased over previous examination.

EKG

5/21—Large P waves in 2, AVR and AVF suggesting auricular enlargement. Incomplete right bundle branch block with clockwise rotation. Changes consistent with right ventricular hypertrophy.

6/25—Sinus Tachycardia with PAC and PVC. Minor ST and T wave changes. Rate 140. Pr. 0.12, QRS 0.03.

7/2—ST segment and T wave changes of digitalis. Rate 114 PR-0.16, QRS-0.09.

7/16—ST segments show more depression indicating more digitalis effect. PR-0.2.

7/22—Varying degrees of A/V block 1st and 2d degree. Overdigitalization.

Pathological Findings

At autopsy the left auricle and right side of the heart were moderately hypertrophic and dilated. There was severe mitral stenosis and insufficiency, with a calcified "fish-mouth" mitral valve. The other valves were not remarkable. There were small areas of fibrinous pericarditis at the points where the superior vena cava and aorta left the pericardial sac, but these appeared to be extensions of severe fibrinous pleuritis. No valvular vegetations or verrucae were seen. Histologically there was abundant evidence of healed rheumatic lesions, but no Aschoff bodies were found. In short, there was no evidence of activity of the patient's rheumatic heart disease.

There was severe chronic passive congestion of the lungs and all the abdominal viscera. The marked degree of atherosclerosis of the pulmonary arteries, and the presence of phlebosclerosis in pulmonary veins indicated the severity of the pulmonary hypertension resulting from the mitral stenosis.

There were old thrombi in many large and small pulmonary artery branches to the lower lobes and right middle lobes. Histologically they showed varying stages of organization. There were large areas of infarction in the right middle and lower lobes, and

smaller ones in the left lower lobe. Many of these areas were infected, and in some places it was difficult to tell whether the pneumonia or necrosis had occurred first. There was a considerable degree of organization of the necrotic areas and of some of the thrombi; they could have coincided in time with the onset of the patient's febrile illness. Although the term "thrombus" has been used here, it is impossible to tell whether these actually were thrombi (i.e., arose in the pulmonry arteries) or were emboli from leg veins. Emboli are far more common than thrombi in the lung.

An incidental finding of interest was the presence of many large, acute ulcers in the stomach. Such ulcers are not infrequent in patients with lesions of the diencephalon[1] and with prolonged shock. In this case, the severe passive congestion of the stomach may have contributed to gastric mucosal anoxia. It is possible that the considerable amount of cortisone and ACTH which the patient received might have played a part in the pathogenesis of the ulcers, possibly by preventing healing of mucosal abrasions.[2]

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1. Harvey Cushing: Peptic ulcers and the interbrain. Surg., Obs., and Gyn. 55, 1, 1932.
2. C. M. Wharton, et al: Clinico-pathologic examples of untoward effects of cortisone in patients with bacterial infections. Am. J. Med. 11 252, 1951.

Case presented from the wards of the Fourth Medical Division, Bellevue Hospital, Dr. Charles Wilkinson, Dir.

CASE II

W. H. Adm. 11/13/50, Died 11/15/50. Ward A4.

1st Adm. 3/28/49 to 4/27/49. Sixty-five-year-old white married male with history of exertional dyspnea 5 years and chronic cough productive of 2 tbsp. non-foul, non-bloody, whitish mucoid sputum. Had worked in hard coal mines in Scranton, Pa., 1898-1918, driving tunnel car in latter years. Dyspnoea had been progressive during year PTA with orthopnoea for same period, ankle edema 2 days. Review of clinic chart revealed that he had 1st been seen in Sept. 1946 complaining of cough, dyspnoea; symptomatic relief with aminophylline, ETH with codeine. In March 1948 started on digitalis and merc. because of large liver and ankle edema; edema cleared and dig. cut in Sept. 1948, but merc. continued. Initial EKG Sept. 1948 showed NSR, diphasic T2, 3, no axis deviation. In March 1948 left axis deviation appeared, and in Nov. 1948 left bundle branch block.

P.E. Temp. 100 Pulse 90. Resp. 26 B.P. 160/90.

An obese, alert white male in no acute distress. Mild orthopnea, moderate dyspnea on slight effort. No cyanosis.

Skin: acneiform rash ant. chest. Normal hair distribution. No jaundice.

Pupils: normal. Fundi show arteriolar narrowing, loss of pigment, no exudate.

ENT: neg. No adenopathy, Trachea midline. No distention of neck veins.

Chest: symmetrical, minimal expan-

sion. Scattered rhonchi bilat. Rales lower 1/3 both chests post.

Cardiac: P.M.I. not felt. LBD 1" beyond m.c.l. Sounds fair quality A2 = P2. Soft systolic murmur, apex.

Abdomen: soft, obese. Liver 2-3 fingers below c.m., non-tender. Spleen not felt.

Genitalia and rectal: neg.

1 + ankle and sacral edema. No clubbing or calf tenderness.

Peripheral vessels sclerotic. Dorsalis pedis palpable bilat.

Neuro: neg.

EKG: Sinus rhythm with many auricular and ventricular premature contractions; lt. axis deviation. Lt. B.B.B.

Course: Very low grade fever during entire hosp. stay, spiking to 101 on 2 occ. Cardiac cath. 4/4/50 and 4/14/50, 1.5 mg, digoxin into pulm. artery on 1st study (see data). Following digitalization with salt free diet, aminophyllin supp. and vaponeph. there was marked symptomatic improvement. Rales, rhonchi and edema cleared, discharged to clinic. Followed in clinic on dig., aminophylline. No merc. Was able to resume work as elevator operator. B.P. varied from 190/100 to 130/80 usually about 150/90. Gradual weight loss 179 to 159 lbs. during following year. EKG's showed no significant change.

2nd adm. 8/21/50 to 9/14/50. Progressive dyspnoea, cough, orthopnoea several weeks. Mod. venous distension, many rhonchi, few basal rales, enlarged heart. Liver down 3 fingers. Pitting ankle edema.

EKG: Sinus rhythm, wandering pacemaker, Lt. B.B.B., many PVC's.

All medication stopped 4th hosp. day because of gen. dermatitis, probably due to penicillin. Digitalis cut because of possible toxicity. Rapid subsidence of symptoms and disappearance of edema though low grade fever persisted. two phlebotomies of 500 cc. each—8/25 and 8/30—with drop in hematocrit 54 to 48. Discharged to clinis on mercuhydrin, aminophylline, vaponephrine, Rx. No digitalis.

3rd adm. 9/23/50 to 10/10/50. Precipitated by rapidly progressing dyspnoea and orthopnea, mild ankle edema. Many rhonchi bilat. and a few rales at both bases. Satisfactory symptomatic response and disappearance of edema with merc. aminophyllin and vaponephrine therapy, though low grade fever persisted throughout his hospital stay with temp. spikes to 102 on 2 occas.

EKG: showed aur. flutter with 2:1 AV block, Lt. B.B.B. Following digoxin Rx rhythm reverted to sinus with wandering pacemaker and frequent PVC's. Discharged on dig. leaf 0.1 gm.

4th adm. 10/24/50 to 11/10/50. Progressive ankle edema, dyspnea, orthopnea and abd. swelling at home despite Rx. Px very much as on previous adm. except for mild ascites now present. Pronestyl (procaine amide) given orally with diminished frequency of PVC's. Low grade fever. Discharged to Home Care.

5th adm. 11/13/50 to 11/15/50. Patient readmitted from Home Care because of increasingly severe dyspnea during 3 days after discharge.

P.E. Temp. 99.4 Pulse 140, reg. Resp. 44. B.P. 120/80.

Sweating profusely with marked dyspnea, orthopnoea, and cyanosis. Occ. non-productive cough.

Pupils: react.

Fundi: venous engorgement.

ENT: negative. *Trachea* midline, re-

traction on inspiration. Many high pitched rhonchi bilat., few rales at left base post.

Heart: enlarged to left. Sounds distant. Apical protodiastolic gallop. A2 = P2. Liver 3 fingers below c.m., slightly tender.

Abdomen: protuberant with signs of fluid present. *Spleen* not felt.

Genitalia: normal.

Rectal: neg.

Med: clubbing of fingers. 2 + ankle and sacral edema.

Neurol.: neg.

Course: Adm. EKG showed aur. flutter with 2:1 A.V. block, no significant change since previous tracing except for change in rate. Review of last EKG taken on previous admission 11/8/50 following Pronestyl study, showed that aur. flutter had been present at that time too, with varying AV block, Vent. rate circa 110. He was given digoxin i.v. with slight slowing of VR the following day, but persistence of flutter. Quinidine sulfate 0.4 gm. q. 2 h. was started on the 2nd day but drop in BP to 85/65 forced its discontinuance after 3 doses. Meanwhile respiration became more labored despite intensive aminophylline, vaponephrine, aureomycin, mercuhydrin and intermittent 02 Rx. Temp. rose to 100 shortly after adm., dropped to normal the 2nd day. Patient became more restless and apprehensive, but respirations were weaker and he quietly expired the night of the 2nd day.

Summary of clinical laboratory data

	3/28/49	8/21/50	9/11/50	9/25/50	10/24/50	10/13/50
HGB	14.5	15.4	15.9	13.5	14.5	17.0
WBC	8950	10,400	14,200	6,050	10,000	19,000
P.	70	76	59	64	78	90
L.	30	24	39	34	20	10
Bl. culture		neg.				
Hematocrit		54%	48%	47%	44%	49%
VP	220	280			340	
CT Decholin	35 sec.	28		23 sec.	27 sec.	
BUN	22	13			19	86 mg%
CO_2						61 vol.
Cl.						81 meq.
Mazz.	neg.					
ESR	14	1				
Sputum cult.		S. viridans, 40% hem. strep.				
" smear AFB	neg.					
Urine culture	1020 1+alb. occ. wbc.	3+alb. 2-5WBC				

SUMMARY OF HEMODYNAMIC AND LUNG FUNCTION DATA

	Brachial Artery			Pulm. Artery			Right Vent.	Cardiac* Index	Art. 02 Saturation
	Systolic	Diastolic	Mean	Systolic	Diastolic	Mean	Diastolic		
Normal (pressures are upper limits m.m. Hg. normal)	140	90	100	30	10	15	5	3.1 ± 0.4	96%
Control 4/4/49	177	103	120	51	29	39	11	2.53	80
86 min. after digoxin 4/4/49	164	100	125	31	10	21	3	2.91	84
2nd Study 4/14/49	166	93	113	31	11	19	—1	2.63	90

*Cardiac Index = Cardiac output/sq. meter body surface	Total Blood Vol. (Per Sq. Meter Body surface Area)	Plasma Vol.	Hematocrit
Normal	2900cc/M2	1600cc/M2	42 ± 4
4/4/49	3980	1765	56
4/14/49	2470	1265	49

	Vital Cap. % normal	Max. Breathing Cap. % Normal	Art. p CO_2 mm Hg.	Residual Air Total cap. × 100
Normal	100%	100%	39.4 ± 2.8	Less than 30
Control	49	32	51	
2 days after digoxin	69	49		49.7
2nd Study 4/14/49			41	
After Vaponephrine		76		

Pathological Findings

At autopsy, the lungs were voluminous and blue-black. There were innumerable hard, tiny nodules distributed fairly uniformly throughout both lungs. In spite of this, the lungs were hypercrepitant, showing the changes of *emphysema*. Histologically, there were whorls and irregular masses of coarse hyalinized collagen fibers enclosing phagocytized and extracellular dark black pigment granules. In polarized light doubly refractile silica crystals were visible in the scars. Many of the scars were perivascular. Arterioles and small arteries had thickened medias. Alveoli were large and septa were disrupted. The fibrous nodules were characteristic *anthracosilicotic* nodules. The anthracotic component is not throught to be responsible for fibrosis.[1] The widespread paravascular fibrosis is more damaging than a similar volume of fibroses occurring in one concentrated area.[2]

The patient's heart was hypertrophic (500 gm.) and dilated. The change was no greater on the right than the left side; the patient did not have anatomic cor pulmonale. While he had moderate coronary atherosclerosis and minimal myocardial fibrosis, this was not sufficient to account for his congestive failure. It seems probable that the progression was something like the following: the patient developed extensive focal fibrous scars as a result of exposure to silica. The scarred tissue eliminated a considerable number of alveolar capillaries, reducing the pulmonary capillary bed. At the same time, the contraction of the scars resulted in compensatory emphysema, with concommitant further decrease in vascular bed (probably by "attenuation" of septal capillaries). With advancing age, the bony thorax became fixed, further decreasing the patient's ability to ventilate his already emphysematous lung. This resulted in anoxia, polycythemia, and increased blood volume. These factors contributed to heart failure. The normal pulmonary vascular bed can increase in volume several times without a rise in blood pressure.[3] With this patient's decreased pulmonary bed, pressure would probably have increased more rapidly, adding a component of right sided heart failure to that which stemmed from the anoxia.

The liver and spleen showed considerable chronic passive congestion. There were slight hydrothorax and ascites, as well as subcutaneous edema. An incidental finding was cholelithiasis with severe chronic cholecystitis.

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Case presented from the wards of the Fourth Medical Division, Bellevue Hospital, Dr. Charles Wilkinson, Dir.

Lesions of the Patella

The patella or "knee-cap" is the largest sesamoid bone in the body. It is ovoid in shape and lies in the tendon of the quadriceps femoris muscle (Figure 1). Since it is a sesamoid bone, it has no periosteum; the anterior and lateral surfaces are covered with fibres of the tendon. The posterior surface (the articular surface) is covered with fibrocartilage, which is within the knee joint, and glides in the hollow between the condyles of the femur. The lower pole of the patella (the apex) is pointed, and from it runs the patellar ligament (the extension of the quadriceps tendon) to its insertion into the tibial tubercle. The patella serves to protect the knee joint and to add leverage to the tendon for extension of the knee.

Fractures Because of the exposed position of the patella, it is frequently subject to injury. Fractures are common in adults but rare in children (probably because of the elasticity of the quadriceps tendon and the fact that the patella is cartilaginous until about the time of puberty). Fractures occur in men twice as often as in women. They are usually either stellate or transverse.

Stellate Fractures (Figure 2) result from direct trauma to the patella, such as kicks and blows, and sometimes falls. (In most falls, except for falls "flat on the face," the brunt of the blow is taken by the tibial tubercle, not the patella). The patella is shattered, but the tendon remains intact and prevents separation of the fragments. The articular surface is often involved, as is the cartilage of the femur. This may result in the presence of loose bodies in the joint ("joint mice"), or in older patients, traumatic arthritis. The entire knee is swollen, and tenderness is marked directly over the patella. Hemarthrosis is present as a rule. X-rays (anterior-posterior, lateral, and tangential) confirm the diagnosis.

Treatment consists of rest, elevation, and aspiration of the joint if required. In young patients, when the swelling subsides, a snug tubular cast is applied from the upper thigh to just above the ankle, with the knee in full extension (Figure 3). Weight-bearing is permitted, and quadriceps exercises are started immediately. These consist of active contraction (tightening) of the quadriceps (as in forced hyperextension of the knee) repeatedly for at least five minutes out of every hour while the patient is awake. Since the quadriceps atrophies quickly with disuse, and a strong quadriceps is essential for a stable knee, these exercises must be continued religiously until the patella is healed and function of the knee is restored. The cast is left on for four weeks; upon removal, active flexion and

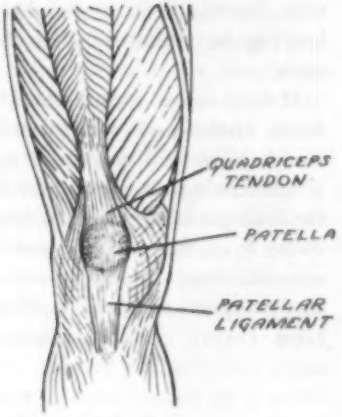

Fig. 1

Anterior view of knee, showing position of patella in the quadriceps tendon.

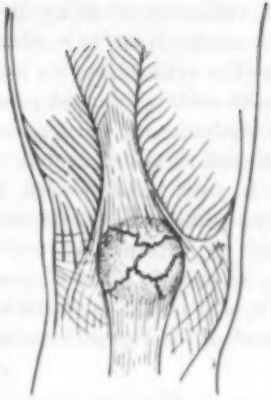

Fig 2

Stellate fracture of patella without displacement of fragments.

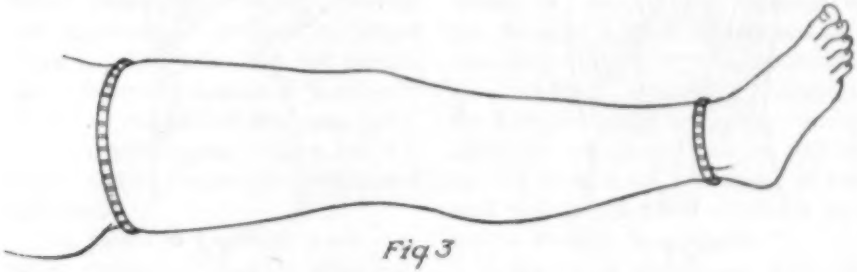

Fig 3

Tubular cast with knee in full extension.

extension exercises are started. Usually three to four months are required for return of full function. Internal fixation is required if the fragments are widely separated.

In older patients (over forty years of age) the same treatment may be used, but a stiff knee often results. Patellectomy is the treatment of choice, especially if the articular surface is damaged. The decision regarding patellectomy should rest with a competent specialist.

Direct blows to the patella very rarely result in *longitudinal fractures*. They may be compound, and may require open reduction and internal fixation.

Transverse Fractures are much more common than stellate, and are due to indirect violence (sudden contraction of the quadriceps with the knee in flexion, causing a buckling of the patella over the femur). The degree of sparation of the fragments is dependent upon whether or not the fracturing force is sufficient to cause a laceration of the lateral expansion of the quadriceps tendon (Figure 4).

The knee is held in slight flexion; walking is impossible because of pain

and limited extension. Swelling of the entire knee results from hemarthrosis (the fracture line extends into the joint) and soft tissue swelling over the patella. If there is separation of the fragments a sulcus between them can be felt, and tenderness is most marked over this area. X-rays confirm the diagnosis.

Treatment of a transverse fracture without any separation of the fragments consists of a tubular cast (with the knee in full extension), and quadriceps exercises, for four to six weeks. Full weight-bearing is permitted after the third week.

If there is any separation of the fragments whatever—even a few millimeters—non-union will almost always result if open reduction is not performed. If the fracture is through the mid-portion of the bone, the knee is placed in hyperextension and the fragments are perfectly aligned and held together by sutures (heavy chromic catgut, silk, or

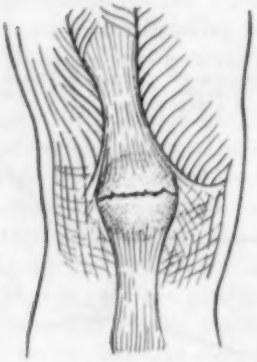

Fig. 4a

Fig. 4b

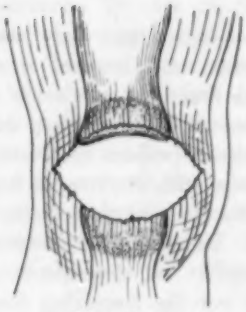

Fig. 4c

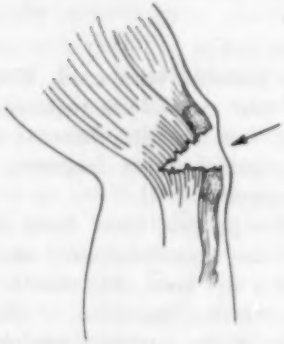

Fig. 4d

Transverse fractures of patella: **4a**—Without separation (anterior view); **4b**—Without separation (lateral view); **4c**—With separation of fragments (anterior view). Note tear of lateral expansion of quadriceps; **4d**—With separation (lateral view).

wire) run through drill holes. The quadriceps tendon expansions must also be repaired. If, as more commonly occurs, there is one large proximal fragment and one or more small distal fragments, the small fragments should be completely removed and the stump of the tendon sutured without slack to the remaining large fragment. A tubular full-extension cast is applied for six weeks, and quadricps exercises are started immediately.

In older patients and in those cases where there is comminution or a small proximal fragment with a large distal fragment, the results of total patellectomy with repair of the quadriceps tendon appear better than the results of open reduction with fixation. Although the appearance of the knee is changed thereby, patellectomy does not produce any significant alteration of function. It should be emphasized that open reduction and patellectomy require hospitalization and the services of a well-trained specialist.

The patella is probably more commonly re-fractured than any other bone in the body. Non-union results in instability of the knee, pain, and recurrent swelling.

Bipartite Patella The patella occasionally develops from more than one center of ossification. Failure of the centers to unite results in a bipartite (two-pieced) or tripartite (three-pieced) patella which may be confused with a fracture on X-ray, but unlike a recent fracture, the edges of the segments are smooth. The upper lateral corner is the area most commonly found separated from the rest of the patella. The condition is asymptomatic.

Chondromalacia Blows to the patella often bruise the articular surface, resulting in aseptic necrosis of areas of the cartilage and bone, and sequestration into the joint ("joint mice"), similar to osteochondritis dissecans of the femoral condyle. Symptoms are instability of the knee, intermittent effusion, clicking, occasionally locking of the knee, and deep boring pain accentuated by overactivity and by walking up and down stairs. A history of trauma is often difficult to obtain. X-rays usually confirm the diagnosis.

Treatment is arthrotomy with removal of the "joint mice" and the articular cartilage of the patella. Patellectomy is the treatment of choice in older

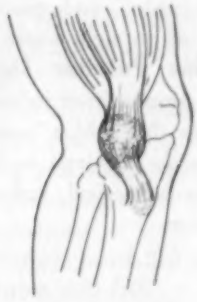

Fig. 5

Lateral dislocation of patella.

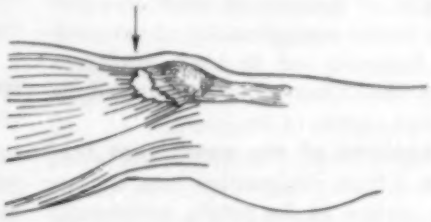

Fig. 6

Rupture of quadriceps tendon.

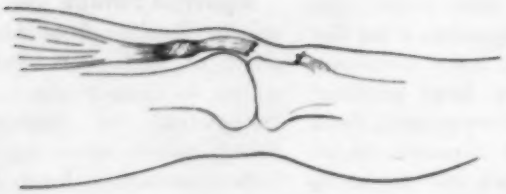

Fig. 7

Rupture of patellar ligament.

patients and in those with early arthritic changes or synovitis.

Dislocation may result from a sudden lateral blow to the patella. A predisposing factor is a small, highly-placed hypermobile patella in a patient with a poorly developed lateral femoral condyle and a tendency to genu valgum. Dislocation is most commonly to the lateral side over the lateral condyle (Figure 5). The knee is held flexed by painful muscle spasm. Treatment consists of reduction by manual pressure with the thigh flexed and the knee extended (to relax the quadriceps). Moderate sedation is usually needed. A tubular cast for three weeks and quadriceps exercises are recommended.

Recurrence of the dislocation is common, and is treated surgically, by correction of the axis of quadriceps pull (by medial transplantation of the patellar ligament, and its bony attachment [the tibial tubercle], and reefing of the medial capsule of the joint).

Avulsion of the quadriceps tendon from its insertion into the upper surface of the patella occasionally results from a sudden, violent contraction of the quadriceps muscle which occurs in attempting to prevent a fall. It is most common in a middle-aged, overweight patient in whom there are some degenerative changes in the tendon. The condition may be bilateral.

The onset is sudden. The patient is unable to raise the leg off the table. There is no active extension of the knee, but flexion is possible. A hemarthrosis is usually present. A sulcus just above the patella is palpable and may be visible (Figure 6).

Lateral x-ray reveals a tilt of the superior pole of the patella away from the femur. Treatment is surgical, i.e., evacuation of the hemarthrosis and resuture of the tendon, followed by immobilization in extension, and quadriceps exercises for six to eight weeks.

Rupture of the Patellar Ligament (Figure 7) results from indirect violence, similar to that which causes rupture of the tendon proximal to the patella. Treatment is surgical, and requires hospitalization.

EDITORIALS

Streamlining the Cold War

Soviet Russia has stepped up her drive against the vodka-induced alcoholism now gripping her people. The Kremlin gang, however, is faced by a curious dilemma — while alcoholism threatens to destroy the people and nullify the totalitarian system, the prohibition technique in vogue is a specious method of dealing with the evil, as the United States found out at great cost in corruption and in aggravation of alcoholism itself.

Drinking establishments are rapidly being closed in Russia and all the appurtenances of prohibition are being wheeled into action.

Scandalous crimes are rampant while local officials charged with the regulation of vodka sales are thoroughly corrupt.

Pravda, the Communist party newspaper, sees a complete failure of the party and social agencies "to organize cultural relaxations" calculated to abate alcoholism.

Reform has failed and of course prohibition will fail.

In so far as the prohibition drive is intensified, by so much will the corruption of officialdom and the devastation of vodka proceed apace. Our own experience on this point is uncontrovertible. Even the Kremlin despotism, for all its power, cannot halt, much less reverse, the reign of King Alcohol.

It would seem that in the case of Russia alcoholism is a beneficent force, in so far as it directly, or indirectly because of prohibition, promises the liquidation of the Kremlin vipers.

Perhaps we should undersell vast stocks of liquor to the Russians. Our Government could take a "profitable loss" say at ten cents a standard bottle of rye, scotch, gin or brandy, thus dispensing with diplomacy and war.

Tax and Spend

The ancient Babylonians furnished the first pattern for governmental taxation designed to make all social and economic gears mesh. In order to prepare for and wage war, which was the politicians' perpetual concern, a system existed which provided gods who, if properly invoked and rewarded, would endow their worshippers with virility in the sexual sense. Babylon was a state in which sex was cultivated and worshipped to the nth degree in the name of religion. The temples, rituals,

priests and priestesses were costly but under such a mythological régime the revenues were vast.

In our day simply read social security for virility. Look but a little way into the future and behold in the mind's eye the temples, rituals, priests and priestesses of a voracious tax-eating bureaucracy, even perhaps with all the sacred appurtenances of compulsory sickness insurance.

Genetic Origins

The greatest gold rush in history, to California, took place in 1849. All the get-rich-quick crackpots in the country made for El Dorado under conditions that no wholly sane person would think of confronting. One may assume that many of the pioneers were of too low an order of intelligence to realize the difficulties.

Today, the descendants of these foolish people account for the queer folk who abound in California; those, for example, who make up the freak cults and sects. It is no wonder that California had to institute sterilization on a large scale at one time as a defensive measure against its own social toxins.

In similar fashion we may account for certain weird people and movements in New England, such as the transcendental leadership and its fringe. There was genius as well as lunacy concerned, for there is always a relationship between these phenomena.

The Mayflower outfit represented no ethnical aristocracy. They were for the most part pious village simpletons of lowly social status who had little or no realization of what risks and hardships they were being happily led into by their fanatical but capable leaders.

Hence the Hawthornes and Emersons on the one hand, and the now crowded State Hospitals on the other hand. The genealogies in both cases run in the same order and quality.

The Hospitals Pro and Con

According to a United Press dispatch of May 17 a hospital is being planned in Los Angeles which among other innovations will ensure that its patients will not be awakened for morning baths or thermometer readings.

The public relations of hospitals will be greatly improved by all such departures from dumb routine.

One pernicious routine is the administration of barbiturates too early in the night, with resulting insomnia after 3 A.M. Not to speak of the abuse of barbiturates when they are unnecessary and inadvisable, just so nurses and doctors will not be disturbed at night.

However, for the general activities and administration of our hospitals, our gratitude and admiration are unbounded.

PEDIATRICS

JOHN T. BARRETT, M.D.*

A Study of the Comparative Response of Young Infants to Human Milk and to Various Types of Cow's Milk Formulas

M. A. Hatfield and associates (*Journal of Pediatrics*, 44:32, Jan. 1954) report a study of the effect of five milk formulas on normal newborn and young infants, as compared with breast feeding. One of milk formulas was made up with diluted fresh cow's milk; the other four formulas were evaporated milk formulas (one preserved by freezing). The five formulas all had essentially the same protein, fat and carbohydrate contents and were relatively high in protein. All of these infants were gaining weight on the fifth day, many of the artificially fed infants had regained their birth weight by that day; the slowest gain in weight was shown by the breast-fed infants, which is attributed to a lower food intake by these infants in the first week of life, as it is known that breast-fed infants show satisfactory weight gains after this time. In the breast-fed infants, there was a higher percentage of green stools, and no excoriation of the buttocks; in the artificially fed infants, the typical stools were small, soft and yellow; the infants in the group fed on the cow's milk preparation showed slight irritation of the buttocks, but those fed on the evaporated milk preparations showed a greater degree of irritation of the buttocks. The studies were continued in older infants—one to eight weeks of age—fed on the same formulas; 4 of these infants had previously been breast-fed. The infants tolerated all the formulas well and showed adequate weight gain. With any formula, stools were more frequent during the first two weeks than later. With the cow's milk formula and the frozen evaporated milk formula, the stools were firmer than with the heat-sterilized evaporated milk formulas. These studies show that the stools of young infants may vary greatly, even though the infants are entirely normal and showing normal weight increase. Early recognition of infectious diarrhea in newborn infants is of great importance, and the data recorded in this study are of value in this regard as showing "the stool pattern" of young infants when breast-fed or on different feeding formulas.

Barrett

COMMENT

The vast majority of infants are able to

* Active Staff, R. I. Hospital, Providence Lying-In Hospital, C. V. Chapin Hospital, Pawtucket Memorial Hospital; Consulting Staff, Westerly Hospital.

assimilate quite adequately a variety of different formulas. It's the occasional infant who must be "coddled". This paper points out that proper weight gains are possible with any of the formulas. It's interesting to note that the often distressing "buttock rash" is minimal with breast fed babies.

J. T. B.

Hemolytic Streptococcal Infection in Childhood

L. A. Rantz and associates (*Petiadrics* 12:498, Nov. 1953) report a study of hemolytic streptococcal infection in children in the first eight years of life. During the first four years of life hemolytic streptococcal infection occurred at the rate of from 20 to 25 per cent of previously uninfected children, while reinfections occurred in about 50 per cent. In 86 per cent of these cases the infection was recognized only by isolating the streptococcus from the nasopharynx or by demonstration of an increased serum antistreptolysin O. An acute febrile onset was rare in those cases in which the infection was recognized clinically; rhinorrhea was the usual earliest symptoms; there were only 2 cases of sore throat; suppurative complications included otitis media, cervical lymphadenitis and pyoderma. In the second four years of life, the onset of the streptococcal illness was acute and febrile in 56 per cent of the cases; uncomplicated nasopharyngitis and exudative tonsillitis were of much more common occurrence than in the younger age group, while suppurative complications, such as otitis media and cervical adenitis, occurred less frequently. In both the younger and the older age groups, penicillin therapy was very effective, not only in obtaining prompt clinical improvement, but also in causing rapid disappearance of the hemolytic streptococci from the nasopharynx and from purulent discharges. Rheumatic fever and "lesser manifestations of the rheumatic state" were never observed in children under four years of age, but did occur in the older age group. A study of these cases suggests that "the changing patterns" of the clinical symptoms due to hemolytic streptococcal infection in children as they grow older are due to repeated infection by these streptococci "with an alteration in tissue reactivity presumably on an immunologic basis." This hypothesis, however, has not as yet been proved.

COMMENT

The conclusions by this group of investigators are most provocative and interesting. Should we advocate vigorous antibiotic treatment on the clinically insignificant afebrile streptococcus infection of early childhood in the interest of preventing such "tissue alteration"? Or, should these infections be allowed to take their course in the hope of some benign immunologic response? The answer is not clear except that most observers decry the indiscriminate use of antibiotics for relatively benign infections.

J. T. B.

Antibiotic and Chemotherapeutic Agents in the Treatment of Infantine Diarrhea and Vomiting

R. H. Dobbs and his associates—a "Working Party," representing ten medical centers in Great Britain—(*Lancet 265:*1164, Dec. 5, 1953), report the results of treatment of infantile diarrhea and vomiting with Aureomycin, chloramphenicol and sulfadiazine. A total of 1168 cases were studied excluding cases of salmonella or shigella infection, of which 154 were treated with Aureomycin, 415 with chloramphenicol, 247 with sulfadiazine, and 352 were controls. All the patients were given supportive treatment, according to the severity of the disease, which included the

administration of electrolyte solutions with or without glucose; in the more severe cases the electrolyte solutions were given by intravenous infusion at first. The dosage of the drugs employed was based on the body weight of the infant on the day of admission to the hospital; the dosage of Aureomycin and of chloramphenicol was 75 mg. per lb. body weight daily; and of sulfadiazine 125 mg. per lb. daily. All the drugs were given by mouth in divided doses at intervals of not more than six hours. With the "highly effective supportive treatment" employed in all cases, the mortality rate for the entire series of cases was 2.8 per cent, and in the control group it did not exceed 4 per cent. The following criteria were employed to assess the results of treatment: Average duration of diarrhea; average time to full clinical recovery; and percentage of mild cases that became severe in spite of treatment. In the Aureomycin-treated group, the percentage of mold cases becoming severe was definitely diminished as compared to the control group; the average duration of diarrhea and the average time to full recovery were not appreciably shortened. In both the chloramphenicol treated group and the sulfadiazine-treated group, results were better than in the control group in regard to all the three criteria; results in the sulfodiazine-treated group were "significantly" better than in any other group. The results of this study indicate that the oral administration of sulfadiazine or chloramphenicol, especially sulfadiazine, "may be considered as a valuable addition to established methods of treatment" of infantile diarrhea, but that adequate supportive therapy is still of "paramount importance" and the use of either of these drugs is not without some risk of toxic reactions.

COMMENT

In our efforts to "keep up with the times" and use the newer antibiotics I suppose we have ignored the often effective sulfa therapy of yesteryear. It's encouraging to note that this recent study stamps sulfadiazine as showing "significantly better results" than the other drugs. We mustn't lose sight of their use of "highly effective supportive treatment" which more often than not is the real difference between a good and a bad result.

J. T. B.

Hydrocortisone (Compound F) Acetate Ointment in Eczema of Infants and Children

L. R. McCorriston (*Canadian Medical Association Journal*, 70:59, Jan. 1954) reports the use of hydrocortisone acetate ointment in the treatment of eczema in 104 infants and children. Two concentrations of hydrocortisone acetate were 2½ per cent and 1 per cent, in various bases. The higher concentration was used in the cases with the more severe eruptions and marked itching. In all cases the hydrocortisone acetate ointment was more effective than the ointment base alone. In a few infants with one or both parents giving a history of hay fever, asthma, or eczema, treatment has had to be continued, but in smaller dosage than was used at first. In most of the cases, improvement rated as 75 to 100 per cent occurred, and in 60 per cent of these children this improvement was maintained without further therapy. In other cases acute "flare-ups" of the eczema have occurred, which have subsided quickly when the hydrocortisone acetate ointment was used for a short time. No adverse effects of the use of hydrocortisone acetate in the ointments have been observed in these cases; there is "probably too little absorption" for

systemic effects; and there was no case of allergic hypersensitivity in the cases studied. On the basis of these results the author concludes that hydrocortisone acetate ointment is "the single most effective agent in the treatment of eczema of infants and children."

COMMENT

We are in complete agreement with McCorriston's conclusions. I'm sure that no pediatrician or allergist would minimize the importance of elimination diet, avoidance prophylaxis or other ancillary measures, but the use of Hydrocortisone acetate ointment followed by your favorite bland or coal tar preparation has much to offer in the treatment of this frequently distressing and refractory disease.

J. T. B.

Hereditary Nonspherocytic Hemolytic Anemia Presenting as Hemolytic Disease of the Newborn

O. C. Bruton and associates (*Pediatrics*, 13:41, Jan. 1954), report a case, a newborn infant with symptoms of erythroblastosis fetalis, which was successfully treated by exchange transfusion with O Rh-negative blood. Complete typing of the infant's and mother's blood, however, showed no Rh incompatibility, and subsequent study of the child shows that he has a hemolytic anemia; both spherocytosis and sickle cell anemia could be ruled out in this child by a study of the characteristics of the red cells. Splenectomy was done when the child was ten months of age, but had no favorable effect on the hemolytic process, in contrast to the favorable effect of splenectomy in hereditary spherocytic anemia. A study of the family of this child showed the mother to have a mild normochromic anemia without spherocytosis; the father, a sister, and other members of the family tested showed no anemia. The interest in this case is that recently other cases of this type have been reported in which the symptoms at birth indicated erythroblastosis fetalis, but the laboratory findings did not confirm the diagnosis. For this reason it is important that the correct diagnosis of hereditary hemolytic anemia, without spherecytosis or sickling should be made. The basic defect that is responsible for this type of anemia and the reduction in the life span of the red cells in these cases has not yet been determined. Evidence indicates that it is inherited as a Mendelian dominant and affects both sexes.

COMMENT

An interesting problem which is probably of little practical interest to the practitioner since the treatment would appear to be that of erythroblastosis.

J. T. B.

Clini-Clipping

Colles' fracture showing tenderness and deformity (silver-fork) over site of fracture.

Medical Book News

Edited by Robert W. Hillman, M.D.

SURGICAL PATHOLOGY

Surgical Pathology. By Lauren V. Ackerman, M.D. St. Louis, C. V. Mosby Co., [c. 1953]. 4to. 836 pages, illustrated. Cloth, $14.50.

The author does not attempt to write another textbook of general pathology, instead he presents what he terms "the pathology of the living". It is a book for the surgeon who must make the decision as to the proper method of treatment. Nearly all the common diseases and many of the rare ones are described in an excellent manner. Photographs and photo-micrographs are plentiful. There is an excellent bibliography at the end of each chapter. Any surgeon will find the book a valuable addition to his library.

EDWARD P. DUNN

GRAPHOLOGY

Handwriting and the Emotions. By Malford W. Thewlis, M.D. & Isabelle Clark Swezy. New York, American Graphological Society, [c. 1954]. 8vo. 264 pages, illustrated. Cloth, $8.00.

This outstanding publication is the official book of the American Graphological Society. It stems from the combined experiences of a handwriting analyst and a practicing physician, who, for 18 and 10 years respectively, have critically studied the handwriting of normal, sociopathic and mentally ill persons. Properly interpreted handwriting can throw significant light on character, habits, and emotions. It is often a short cut to detecting behavior and personality traits otherwise missed or requiring time-consuming methods.

The contents include a thoroughgoing investigation of handwriting studies from early times to the present. Emotional and mental factors affecting handwriting in normal or abnormal conditions are graphically illustrated and discussed. The role of handwriting as an indicator in choosing a vocation and throwing light upon marital compatibility makes interesting and helpful reading. Various aspects of magnified handwriting, use of graphology in screening inductees, and its role in evaluating personality traits are enlightening. A basic bibliography and adequate index round out this comprehensive volume which has so many practical applications in diagnosis and psychotherapy. This book will help capitalize the importance of handwriting, which, unfortunately, is often neglected or minimized as a significant tool in the armamentarium of the psychiatrist and others obligated to evaluate, understand and help improve personality functioning.

FREDERICK L. PATRY

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SURGERY

An Atlas of Surgical Exposures of the Extremities. By Sam W. Banks, M.D. & Harold Laufman, M.D. Philadelphia, W. B. Saunders Co., [c. 1953]. 4to. 391 pages, illustrated. Cloth, $15.00.

This *Atlas of Surgical Exposures of the Extremities* contains approximately 180 plates, each of which shows from two to five serial views of the successive steps in the surgical approach to various deep structures of the extremities, from origin at the trunk to the distal portions of the limbs.

The pictures are unusually clear cut and are of adequate size to make them readily comprehended. The accompanying descriptive text is concise and easily followed because it is presented in the same view with the pictures.

In the reviewer's opinion this book fills a long-felt need for those who do operative work on the extremities, be it orthopedic, neuro-vascular, or traumatic work of any kind.

A copy should be on every surgical library shelf.

WALTER H. SCHMITT

BLOOD GROUPING

Les Groupes Sanguins du Système Rh. Applications Etude Pratique. By Prof. Pierre Cazal & John Elliott, D.Sc. [Paris], L'Expansion Scientifique Française, [1951]. 12mo. 169 pages, illustrated.

The combined French and American authorship in this short concise edition on the Rh blood factors and groups will be of value to pathologists, hematologists, and those directly concerned with research and the blood bank program. Written in French, printed clearly and with descriptive tables and diagrams, it covers the Rh field satisfactorily. Transfusion, Rh groups and the related factors, Rh in obstetrics, pediatrics, with the genetic and medico-legal and social aspects of this involved problem, are well delineated. This text should be read not only by those especially interested, but also by all physicians in order to broaden their understanding of the Rh system.

EARL W. DOUGLAS

MEDICAL PRACTICE

Doctor—It Tickles! By Henry Gregor Felsen. Illustrations by Lawrence Lariar. New York, Prentice-Hall, [c. The Author, 1953]. 8vo. 120 pages, illustrated. Cloth, $2.95.

This is a collection of trivia with a medical background or implication. The author uses the tricks of exaggeration and parody to tell of a doctor's experiences. A typical chapter labeled, "Magazine Medicine Makes Doctors Obsolete" shows how patients make their own diagnosis from medical articles in lay magazines. The doctor, at times, is assumed to be not up date because he has not had the opportunity to read the various articles in question. In the chapter, "What Goes On in the Doctor's Bag", among the conglomeration of things the author places in the bag is "One prescription pad with notation, 'Bet $2. On the Dodgers to win the series.'"

The author has made the suggestion, Do not let this book fall into the hands of patients.

Illustrations by Lawrence Lariar are pertinent and humorous.

JOSEPH RAPHAEL

SURGERY

Emergency Surgery. Bernard J. Ficarra, M.D., Supervising Editor. Philadelphia, F. A. Davis Co., [c. 1953]. 4to. 1,000 pages, illustrated. Cloth, $18.00.

This modern textbook on emergency surgery is the compiled work of *eighty* outstanding contributors from all the fields of surgical emergency practice. Doctor Ficarra has ably edited and organized this text. All aspects of practically every surgical emergency have been included as well as those that might arise in the fields of obstetrics and gynecology.

The presentation of the various *best* procedures is stressed. The illustrations are so well integrated and concise that the text is very easily read and assimilated.

This text can become a part of any physician's or surgeon's library, as it concentrates on "the best treatment first" in the surgical emergencies. There are sections on the radiation syndrome as well as bombing and atomic disasters.

The references at the end of the chapters are very complete.

We suggest that this text might be of value in all the hospital emergency and ward services.

EARL W. DOUGLAS

THERAPEUTICS

Modern Treatment. A Guide for General Practice. By Fifty-three Authors. Edited by Austin Smith, M.D. & Paul L. Wermer, M.D. New York, Paul B. Hoeber, [c. 1953]. 4to. 1,146 pages, illustrated. Cloth, $20.00.

This book, with over 1,000 pages, covers the field of medicine and many specialties with short yet up-to-date accounts of most of the disease states encountered by a general practitioner. As is the case with most books written by so many authors, some sections are excellent and others are weak. In general, it fulfills its purpose, namely to be a "guide." To the physician seeking a handbook of therapy, the book will be a disappointment because the therapeutic advice is given in generalities and is too brief to be used without previous knowledge of the subject. However, for the average well-informed practitioner who would like a quick check as to whether his knowledge of a particular treatment is up-to-date, the book will be of great help.

MILTON B. HANDELSMAN

THERAPEUTICS

Antibiotics Annual, 1953-1954. Proceedings of the Symposium on Antibiotics . . . October 28, 29, and 30, 1953, Washington, D. C. Sponsored by U.S. Department of Health, Education, and Welfare, Food and Drug Administration, Division of Antibiotics, in Collaboration with the Journal, **Antibiotics & Chemotherapy.** New York, Medical Encyclopedia, [c. 1953]. 4to. 632 pages, illustrated. Cloth, $8.00.

This is an adequate review of all the new and important developments in the field of antibiotic therapy. It may be read with profit by all.

A history, a scientific survey, and a compendium of treatment, all in one volume, makes a valuable addition to any physician's library.

An encyclopedic book cannot be reviewed in detail, but there are 632 pages of information about all phases of therapy in its most modern form. It should serve well both the student and the practitioner.

In addition, the fact that the basis of the book is a symposium sponsored by the Food and Drug Administration makes it authoritative.

THEODORE M. FEINBLATT

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New!

The Roentgen Aspects Of The Papilla And Ampulla Of Vater

By

MAXWELL H. POPPEL, M.D.
HAROLD G. JACOBSON, M.D.
ROBERT W. SMITH, M.D.

This is a complete presentation of the roentgenologic survey of the anatomy, physiology and pathological states of the Vaterian region. It brings integration and meaning into a complex subject by presenting an inclusive affirmation approach not heretofore attempted.

The abnormalities of adjacent structures (notably the duodenum) are considered. This is especially important in formulating correct differential diagnosis.

Roentgenologically considered, what are the criteria for appraising any given major papilla or Vaterian ampulla as normal or abnormal? The answer cannot be found in the existing roentgen literature so the authors have searched for the answer and set down their findings.

The approach is roentgen study from the basic anatomic (postmortem) and from the practical (in vivo) standpoints. The microscopic pathological findings obtained from surgical specimens and from autopsy material served as a bridge of explanation for those roentgen findings which did not conform to the normal basic anatomical types (including variants).

211 pages 150 illustrations

$8.50, postpaid

CHARLES C. THOMAS • *Publisher*
Springfield, Illinois

MEDICAL BOOK NEWS

—Continued from preceding page

BOOKS RECEIVED FOR REVIEW

1954 Medical Progress. A Review of Medical Advances During 1953. Morris Fishbein, M.D., Editor. New York, Blakiston Company, [c. 1954]. 8vo. 345 pages. Cloth, $5.00.

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Investing For The Successful Physician

Prepared especially for Medical Times by Merrill Lynch, Pierce, Fenner & Beane, Underwriters and Distributors of Investment Securities, Brokers in Securities and Commodities.

SELECTED INDUSTRIES

In previous articles we have outlined some of the many important factors to be considered in setting up a securities investment program. Basic investment terms have been defined. Principles utilized by successful inventors have been detailed.

Successful investment, however, cannot be reduced to a rigid set of rules. Specific information about industries and companies is the final pre-requisite to a sound investment program.

Business in the United States is composed of hundreds of industries, thousands of different company groups, hundreds of thousands of individual companies.

When business is good generally, many companies may be having tough times. And, when business appears to be in an overall slump, selected companies often are booming along, enjoying excellent profits and prospects.

Thus, because of the number and variety of business enterprises in America, the average investor faces a tough problem in his picking and choosing.

How can a physician, for example, take sufficient time from his practice to gather all the current facts of business in meaningful form? Obviously, he can't . . . not all by himself at any rate. Many stock buyers today are interested in long-term investment. They are not particularly concerned about immediate capital appreciation or dividend payments. What they are interested in is the capital appreciation which they expect to result from the new, the revolutionary, the profitable developments in our atomic age.

However, such things as electronic

The information set forth herein was obtained from sources which we believe reliable, but we do not guarantee its accuracy. Neither the information, nor any opinion expressed, constitutes either a recommendation or a solicitation by the publisher or the authors for the purchase or sales of any securities or commodities.

brains, automation, sonic speeds, television, low cost air travel, air conditioning, super drugs, man-made fibers, solar energy, atom electric power plants, "automobiles", family helicopters and so forth make specific knowledge of business a matter of careful study.

The tempo of discoveries is increasing. Corporations are pouring money into research at the greatest rate in our history. All this has increased the excitement of security investment. But, in one respect, it has also made the selection job tougher than in the past.

Possibilities have increased but so has the difficulty in separating the best from the rest.

Hoping will not make it so.

Indicators Whether business is considered good, bad, or just so-so, the nations business economists have a collective eye, on what are called business indicators. They continually seek a factual basis for answering the question: "Where do we go from here?"

All of this statistical ball-gazing goes by the name of "economic forecasting."

There's only one hitch.

All economists cannot agree on just exactly which business indicators are most important. Also, as Dr. Arthur F. Burns, chief economic advisor to President Eisenhower, said last month, the quality of available statistics, in some cases, is poor and often too slow in coming to do anything about them.

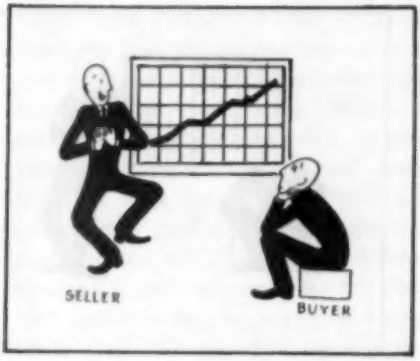
Some of the better-known indicators include the rate of consumer spending, installment credit, loans to businesses, the steel rate of production, the rate of construction, both houses and industrial plants. Also on most lists are such items as retail sales, business inventories, personal savings, personal income, industrial production, and unemployment.

These figures are available to anyone on a monthly or weekly basis. Some are published by the Government, some by banks or industry groups. However, most individuals pay little attention to these changing facts of business life—except as an item in the newspaper draws attention now and then.

But, anyone has staring him in the face daily some sort of an indicator which contributes in some measure to the overall picture of business health.

The physician knows his patients, knows when they pay doctor bills promptly. And he knows when they don't. But more important, he probably has a good idea of why.

The physician, or lawyer, or garage mechanic, or retail store manager can make an estimate of business by the changing attitudes of those with whom he has his business. He has a business indicator which he then may relate to his own profit or loss. He can explain,



for example, that a drop in his own income is not just because people don't need his services, but because everyone is cutting down on all services.

Industry Comment Let's see how we might discuss the prospects of two industries with long term prospects . . . but which must remain in what we consider a speculative category.

RADIO AND TELEVISION

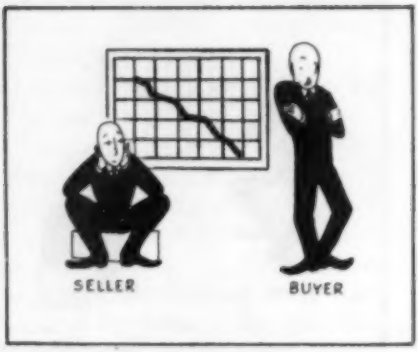
Market Prospects: Relatively Favorable The television industry entered the 1953 fall selling season with heavy inventories in anticipation of a brisk Christmas market. However, demand was below normal and industry-wide inventories were still large at the year-end. Subsequently, production was cut back, and inventories at the end of May, last, were considered satisfactory. Production in the first five months of this year was about one-third below the corresponding 1953 period. It is believed that factory output for the full year of 1954 will be substantially below last year's 7.2 million TV receivers.

In addition to lower factory shipments, producers are plagued by reduced selling prices. Prices have trended downward for some time now, and recently introduced models are likewise lower than predecessors. For example, RCA starts its line with a 17-inch table model at $160, $20 below corresponding 1953 model. Admiral has a similar model which is to sell for $150, $10 under comparable 1953 model. GE reduced prices 10-16%. Consequently, not only have factory sales been lower, but profit margins have been squeezed by lower selling prices which have not been wholly offset by lower production costs.

Stock price performance is expected to be better than the general market over nearby months. Despite lower current earnings, speculative sentiment toward the group has improved recently presumably in anticipation of the promising long range possibilities of color.

Issues in this volatile group are basically *speculative*.

Trade Appraisal Activity in the television set-producing industry slowed down somewhat in the second quarter



in line with the normal seasonal pattern. Industry-wide TV set output in the period dipped slightly below the first quarter and was roughly 14% lower than the 1,600,000 units produced in the second quarter of 1953. Since the first quarter operations also were below the like 1953 period, industry production in the first half declined roughly 27% from the record 3,800,000 units turned out in the 1953 first half when overproduction subsequently led to excessive inventories. Retail sales in the first half are estimated to have roughly equalled industry production with the result that trade inventories at mid-year showed little change from last January 1st. However, inventories were about 13% below the mid-1953 level.

Competition for available business has continued keen. Prices have trended downward for some time and new models introduced around mid-year were priced 10-20% below similar models. Profit margins have been squeezed and a number of producers have reintroduced 17-inch table model low-priced leaders which offer dealers an opportunity of selling-up into higher-priced units where profits are more attractive. With the exception of Radio

Corp. which was able to show improvement, the first quarter earnings of most leading producers were substantially below the initial 1953 period. However, earnings during the remainder of this year are expected to compare more favorably with the depressed levels experienced by most producers in the last nine months of 1953. Nevertheless, earnings of most companies for full year 1954 probably will be somewhat below 1953. Radio Corp. and Motorola earnings are expected to be about same as 1953.

Requirements for *military electronic equipment* continue large and over-all output this year is expected to run slightly above 1953.

Color TV pace likely will gain momentum as the result of the recent introduction of a large size picture tube which can be mass-produced. Color sets currently are expensive but larger tube sizes likely will precipitate greater consumer interest. A steadily growing color market seems in prospect as set prices are reduced.

Various companies are hard at work on the color tube problem including RCA, CBS, DuMont Labs, GE, Hazeltine, Raytheon, Chromatic Labs. (50% owned by Paramount), and others. It is not known at this time which company will come up with the best answer, but it seems certain that the smaller size picture tubes are not acceptable tubes for consumers. It seems probable, however, that one or more of these companies will eventually come up with a solution to the problem and that color TV will prove to be a profitable field.

Close to 25 *new TV stations* started operating in the first quarter which brought the total number to about 380

SYNTROGEL® HOFFMANN-LA ROCHE INC • ROCHE PARK • NUTLEY 10 • N.J.

Radio and Television	Consec. Years Div. Paid	Divs.-$ per Share Paid 1953	Paid or Decl. Last 12 Mos.	Price Range 1944-53 High	1944-53 Low	1954 High	1954 Low	Approximate Price 7-20-54	Yield %
INVESTMENT TYPE									
None									
LIBERAL INCOME									
None									
GOOD QUALITY: WIDER PRICE MOVEMENT									
None									
SPECULATIVE									
*Admiral	12	0.87½a	1.00c	32¾a	2¼a	21⅞	18¼	24	4.2c
*Motorola	13	1.50	1.50	44¾	2¼a	44⅝	30¼	44	3.4
Philco	29	1.60h	1.60h	36½	10⅛a	36⅜	28	37	4.3h
*Radio Corp.	14	1.00	1.20k	29⅜	7½	32¾	22½	32	3.8k
Sprague Electric	13	1.60	1.60	57½	5⅝a	79	54	87	1.8
Sylvania Electric	26	1.82a	2.00c	39½a	15⅝a	40⅜	31⅞	39	5.1c
Zenith	16	3.00	3.00	88½	14½	73⅝	63½	70	4.3

*—Relatively most attractive. a—Adjusted. c—Indicated or current annual rate. h—Plus 5% in stock. k—Current indicated annual rate including $0.20 extra.

in April. It is estimated that around 100 new stations may go on the air in 1954 and that about 650 will be operating by the end of 1957.

AIRLINES

Market Prospects . . . Relatively Favorable Neither by their past earnings nor dividend records could airline securities be characterized as other than definitely *speculative*. Psychological rather than statistical considerations more often than not dominate the market action of airline equities. There are factors, however, which could lead to a more liberal appraisal of earnings. Growth is the industry's outstanding feature but the industry has been unable to translate its gains into consistent profits. Reasons contributing to this have been (1) sharply divergent CAB policies including, at times, an overemphasis on the development of interindustry competition; (2) fast technological obsolescence of flying equipment which, coupled to keen competition, forced companies to buy new and faster planes in relatively quick succession; (3) negligible dividend payments, the result of substantial and relatively short-term debt contracted for new equipment; (4) a rigid fare structure in the face of steadily rising operating costs, exposing the industry to repeated and serious profit squeezes.

Basically, the chief appeal of airline stocks is in the industry's good growth prospects. Fairly wide price fluctuations provide speculative near-term possibilities from time to time but the average investor should hold airline stocks primarily for their *longer range* potential.

Trade Appraisal Over the nearer term, air transportation seems to be entering a profitable period, largely due to a continued, vigorous upswing in traffic. The second half of the current year promises to compare favorably with the corresponding 1953 period.

As new equipment continues to be fed into the system for the balance of 1954

Airlines	Consec. Years Div. Paid	Divs.—$ per Share Paid 1953	Paid or Decl. Last 12 Mos.	Price Range 1944-53 High	1944-53 Low	1954 High	1954 Low	Approximate Price 7-20-54	Approximate Yield %
INVESTMENT TYPE									
None									
LIBERAL INCOME									
None									
GOOD QUALITY: WIDER PRICE MOVEMENT									
American Airlines	4	0.50	0.60c	19 7/8a	5 3/4a	14	11 1/2	14	4.3c
*Eastern Air Lines	5	0.50	0.50	33 1/2a	8 1/4a	26	21 5/8	26	1.9
SPECULATIVE									
Capital Airlines	—	Nil	Nil	49 3/4	3 7/8	10 1/4	8 5/8	10	—
*Delta Air Lines	6	1.10	1.20	70§	11 1/2§	25 1/2§	19§	25	4.8
National Airlines	4	0.55	0.60	34 3/4a	4 1/2	15 1/2	12 1/2	15	4.0
Northwest Airlines	—	Nil	Nil	63 1/2	7	9 3/4	7 1/2	11	—
Northwest Airlines 4.60% Cum. Cv. Pref. ($25 Par)	7	1.15	p	27 1/4	13 5/8	18 1/4	14 3/4	19	p
Pan American World Air	14	0.65	0.80c	29	8	12 1/4	9 3/8	14	5.7c
*Trans World Air	—	g	Nil	71 3/4a	8 3/4a	16 3/4	13 1/8	17	—
United Air Lines	5	1.50	1.50	62 1/2	9 5/8	25	21 1/8	25	6.0

*—Relatively most attractive. a—Adjusted. c—Indicated or current annual rate.
g—Paid 10% stock. p—Arrears $0.86¼ as of 8-1-54. §—Approximate Off-Board prices.

and during 1955, a repetition of unprofitable operations in the winter months, such as seen last year, is not at all impossible. Looking well into next year, however, the air transportation industry seems to be facing *longer range* changes for the better. The wholesale fleet modernizations of the post-war years, which contributed importantly to erratic post-war earnings, will not recur pending the advent of commercial jet planes. That point now seems four-five years away, at least.

As traffic volume rises some of the latest piston-engined planes may continue to be added but, on the whole, traffic volume will have a chance to catch up with the steady expansion in seat capacity seen in recent years.

From the stockholders' viewpoint this holds out the prospect of higher earnings, build-up of corporate financial strength, and, probably, somewhat more liberal dividends.

There is no question as to the airline industry's consistent and substantial growth in a relatively brief time span and all indications point to a continuation of this trend in the years ahead.

NEXT MONTH: Current Business Appraisal

MODERN THERAPEUTICS

The Use of Silicones as Protectives in Dermatologic Conditions

A group of 107 patients with various dermatologic conditions, including dermatitis venenata, circumscribed neurodermatitis, atopic dermatitis, and nummular eczema of the hands, were treated with an ointment containing silicones. The ointment contained 30 percent Dow-Corning 200 silicone (dimethylsiloxane polymers) in White Petrolatum, U.S.P. The ointment was applied as a protective film over the affected area and permitted healing to progress. A complete cure or satisfactory control was obtained in 83 of the patients who were treated.

Writing in *Calif. Med.* [*80:*21 (1954)], Morrow stated that after healing had occurred the patients were instructed to apply ointment only before they were to come in contact with the agents causing their dermatologic conditions. Sensitivity reactions did not develop. Previous efforts to compound an ointment using a water dispersible base provided a film which peeled off too easily to provide adequate protection.

The Effectiveness of PVP As a Retardant of Drug Action

The retarding effect of polyvinylpyrrolidone (PVP) on the absorption and effect of various drugs has held considerable interest in recent times. Graham, Slinger, and Teed studied the effect of various concentrations of PVP on intramuscular and subcutaneous injections of morphine sulfate, meperidine hydrochloride, and methadone hydrochloride. The test animal used was the rat. The dose of morphine sulfate used was 4.0 mg. per Kg., that of meperidine hydrochloride was 32 mg. per Kg., and that of methadone hydrochloride was 2.5 mg. per Kg. The concentrations of PVP in distilled water ranged from 0 to 40 per cent.

Writing in *J. Pharm. Pharmacol.* [*6:*115 1954)], the authors stated that no marked influence on the duration of action or potency of the drugs was observed.

Erythromycin in Scarlet Fever

A strict rotation of three regimen in the treatment of scarlet fever (involving erythromycin, procaine penicillin and placebo) was employed in 208 naval personnel. Erythromycin was equally as effective as penicillin in the treat-

—Continued on page 78a

Diagnosis, Please!

ANSWER

(from page 25a)

NORMAL KIDNEYS

Normal kidneys and adrenals visualized after presacral air injection, plus tomography.

The role of the male in TRICHOMONAL RE-INFECTION

"A Frank Discussion"

The concept that trichomonal infestation is not peculiar to the female genitalia alone is now established authoritatively. Numerous investigations[1-6] have confirmed the presence of the infesting organisms in the male prepuce, urethra, prostate, or bladder.

The symptomatology observed in the male varies widely and apparently causes no serious residual lesions.[1] Frequently the chief complaint is a nonpurulent discharge with an almost complete lack of accompanying reaction.

According to Lancely in his investigation,[1] the infection can even exist in a nonsymptomatic state. A recent study of 735 male patients, reported in *The Journal of the American Medical Association*, verified conclusively that the "... preputial sac, urethra, or prostate may all be sites of infection ... and that the spread of disease by coitus is not uncommon."

Other studies[2-6] amply support these findings. Crossen,[2] in his notations on persistent and therapy-resistant cases of trichomonal vaginitis in the female, reports many avenues of re-infection, listing among others — douche nozzles, fingers, and the sexual partner. He emphasizes the importance of checking the husband as a possible focus of re-infection.

Bernstine and Rakoff[3] point up the necessity for checking the husband "... particularly as a source of infection in the female ..." Reich and Nechtow[6] similarly advocate such a procedure, stating, "The male, too, may be a source of re-infection. The prostate should be checked as a possible source of trichomonads." Wharton[5] notes "... the infection returns after coitus ..." and again, "Occasionally the husband is the reinfecting focus."

Increasingly, data and studies point up the need for prophylactic measures in coitus, as an effective adjunct to routine trichomonal therapy of the female. The importance and rationale for the use of a condom should be explained carefully. Rakoff et al.[3] are quite definitive in an exposition of treatment and prophylaxis for trichomonal infection and re-infection.

"If the male harbors trichomonads, condoms should be used during sexual intercourse until it is certain the infestation has been cleared up entirely. When the condition exists in the female alone, coitus is best avoided until the vaginitis and active stage of treatment are over: thereafter the husband should use condoms for a period of at least three months after the last treatment ..."[3]

Occasionally, patients will manifest a reluctance to use the condom because of inconvenience or dulling of sensation. These objections are readily overcome following the recommendation and initial trial of pre-moistened, convenient FOUREX® skins. As these are prepared from the cecum of sheep, they do not exert any retarding effect on sensory nerve endings. In those cases where cost is a paramount factor, the use of RAMSES,® a transparent, very thin rubber condom, or SHEIK,® a popular-priced brand, will prove eminently satisfactory.

Physicians may now obtain a complimentary package, which will enable them to confirm the prophylactic value of FOUREX pre-moistened skins and RAMSES and SHEIK rubber condoms as therapeutic adjuncts in trichomonal re-infection. In order to limit the distribution to physicians, requests should be made on your prescription blank and mailed to Dept. M2, Julius Schmid, Inc., 423 W. 55th St., New York 19, N.Y.

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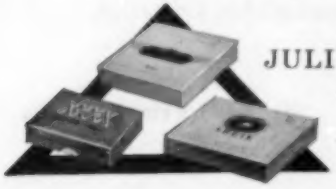

JULIUS SCHMID, INC. *Prophylactics Division*
423 West 55th Street, New York 19, N.Y.

Still More Clinical Research Proving the Value of

Roncovite

in anemia therapy—

The rapidly expanding volume of clinical research continues to prove the effectiveness and safety of Roncovite in the common forms of anemia.* These clinical studies of the effect of cobalt-iron have produced gratifying results in several types of anemia.

AREAS OF CLINICAL STUDY INCLUDE:

- iron deficiency anemia
- anemia in chronic infection
- anemia in pregnancy
- anemia in infants and prematures

Cobalt in therapeutic dosage exerts a specific erythropoietic effect on the bone marrow. Roncovite provides the supplemental iron to meet the need of the resulting accelerated hemoglobin formation.

—and from 1954 clinical reports

"We agree with Waltner (1930) and Virdis (1952) that iron should be given together with cobalt to obtain the most satisfactory results."[1]

"Evidence suggests that iron and cobalt provide the most effective hematinic for pregnant women."[2]

"The babies were closely observed daily for ill effects of the medication while at the premature unit and when they returned for check-ups. None of them showed harmful effects despite the large doses."[3]

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SUPPLIED

RONCOVITE TABLETS

Each enteric coated, red tablet contains:
Cobalt chloride ..... 15 mg.
Ferrous sulfate exsiccated .... 0.2 Gm.

RONCOVITE DROPS

Each 0.6 cc. (10 drops) provides:
Cobalt chloride ..... 40 mg.
(Cobalt ....9.9 mg.)
Ferrous sulfate ..... 75 mg.

DOSAGE

One tablet after each meal and at bedtime; 0.6 cc. (10 drops) in water, milk, fruit or vegetable juice once daily for infants and children.

Roncovite

The original, clinically proved, cobalt-iron product.

LLOYD

BROTHERS,

INC. *Cincinnati 3, Ohio*

In the Service of Medicine Since 1870

—Continued from page 74a

ment of the disease and in the prevention of its suppurative complications, based upon their effects on fever, leukocytosis, duration of the rash, persistence of group A hemolytic streptococci in cultures, and in the total duration of the illness. However, Haight reported in *J. Lab. Clin. Med. (43:*15(1954)) that the incidence of side reactions was significantly higher with penicillin. Only two patients receiving erythromycin developed upper abdominal distress and hypermotility of the bowels while another developed frank watery diarrhea. A significant number of patients receiving penicillin developed rashes or urticaria.

The Effect of Tripelennamine Hydrochloride on Visual Performance

Antihistamines are frequently contraindicated for ambulatory patients whose work or other activity might become dangerous as a result of the dulling of the senses by many of the antihistaminic compounds. Kuscher *et al* studied the effect of 50 mg. of tripelennamine hydrochloride on visual acuity, color perception, and stereoptic perception by means of an optical instrument, the Ortho-Rater. Writing in *Int. Record Med. and Gen. Pract. Clin. (167:*159-(1954)), the authors tested 20 subjects before and 1½ hours after the administration of a 50 mg. tablet of tripelennamine hydrochloride and, in a separate trial, before and after a placebo. A statistical analysis of the results showed that tripelennamine hydrochloride did not significantly affect visual performance in terms of the factors tested.

Safety of Poliomyelitis Vaccine

Salk, Krech, Youngner, Bennett, Lewis, and Bazeley discussed, in *Am. J. Pub. Health* [*44:*563(1954)], the treatment given and the safety testing performed on poliomyelitis vaccine. The virus is inactivated with a 1:4000 to

—Continued on page 80a

WANT A CHUCKLE?

SEE

"OFF THE RECORD . . ."

SHARE a light moment or two with readers who have contributed stories of humorous or unusual happenings in their practice. Pages 17a and 21a.

Is there an engineer in the waiting room?

You, as a physician, are thoroughly trained and experienced in detecting the clinical conditions that affect your patients' physical being. They depend on you completely for a knowledge and guidance not possessed by themselves. Conversely, do you not similarly look to professional men in other fields for aid when the need arises?

For example, when there's the question of quality in the consideration of a new piece of diagnostic equipment — such as an electrocardiograph — an engineer can tell better than anyone, sometimes with just a superficial examination, how well the instrument is designed and made. He notices such things as workmanship, the quality of materials, and the grade of the components. As an engineer he would be sure to see the value in unitized construction in the Viso-Cardiette — amplifier, control panel and recorder as three basic assemblies — and the advantages of inkless recording in true rectangular coordinates. He would remark about the minimum of moving parts, the ruggedness of construction, and the precision instrument quality of the purchased components.

If you are trying to decide which electrocardiograph to buy, we invite this type of comparison between the Viso-Cardiette and any other instrument. To make such an examination of the Viso possible, you may have a Viso for a 15-day trial* without any obligation whatsoever.

* This EXCLUSIVE plan places a Viso-Cardiette in your hands for 15 days. At the end of that trial period, if you are not completely satisfied with the instrument, you simply return it to us and that is all! You're under NO OBLIGATION.

SANBORN COMPANY

Cambridge 39, Massachusetts

—Continued from page 78a

1:8000 concentration of formaldehyde at a temperature of 35-37°C and a pH of 7.0. The inactivation is continued until the reaction has proceeded for 3 times the time required to achieve an activity of one 50 per cent tissue culture infecting dose per 0.5 ml. vaccine. This provides an adequate margin of safety without overinactivation of the antigen.

Safety tests are then performed using 0.5 ml. inocula in each of 40 roll tube tissue cultures of monkey kidney tissue. An intracerebral injection of 0.5 ml. is administered to each of 10 monkeys. If the monkeys show no outward signs of polio in 4 weeks they are then examined histologically and serologically for the presence of nonparalytic polio. In addition, 5 monkeys are inoculated intramuscularly with 10 ml. of the vaccine. Antibody level determinations are also made. The authors felt that these procedures provided an adequate assurance of safety of the vaccine.

Side Effects of Oxytetracycline Therapy

Aside from the gastro-intestinal upsets commonly observed with oxytetracycline therapy, more or less severe side effects sometimes develop. In a series of 603 patients about 8 per cent developed such side effects, according to a report by Hav and McKenzie in *The Lancet* [No. 6819-945(1954)].

A coagulase-positive *Staphylococcus aureus* resistant to oxytetracycline was

—Continued on page 85a

The Calendar Holds the Key . . .

In tension-anxiety states, consider premenstrual tension . . . when cramps, leg pains, nausea, irritability, insomnia, and edema appear regularly before menstruation. Evidence shows these symptoms are due to excess fluid balance—effectively reduced in 82% of cases with M-Minus 5.[1]

1. Vainder, M.: Indus. M. & S., 22:183

M-Minus 5®

Antitensive and Analgesic for Premenstrual Tension and Dysmenorrhea

Each tablet contains:
Pamabrom . . . . . 50 mg.
Acetophenetidin . . . . . 100 mg.

Dose: One tablet q.i.d. starting 5 days before expected onset of menses.

WHITTIER LABORATORIES, 919 North Michigan Ave., Chicago 11, Ill.

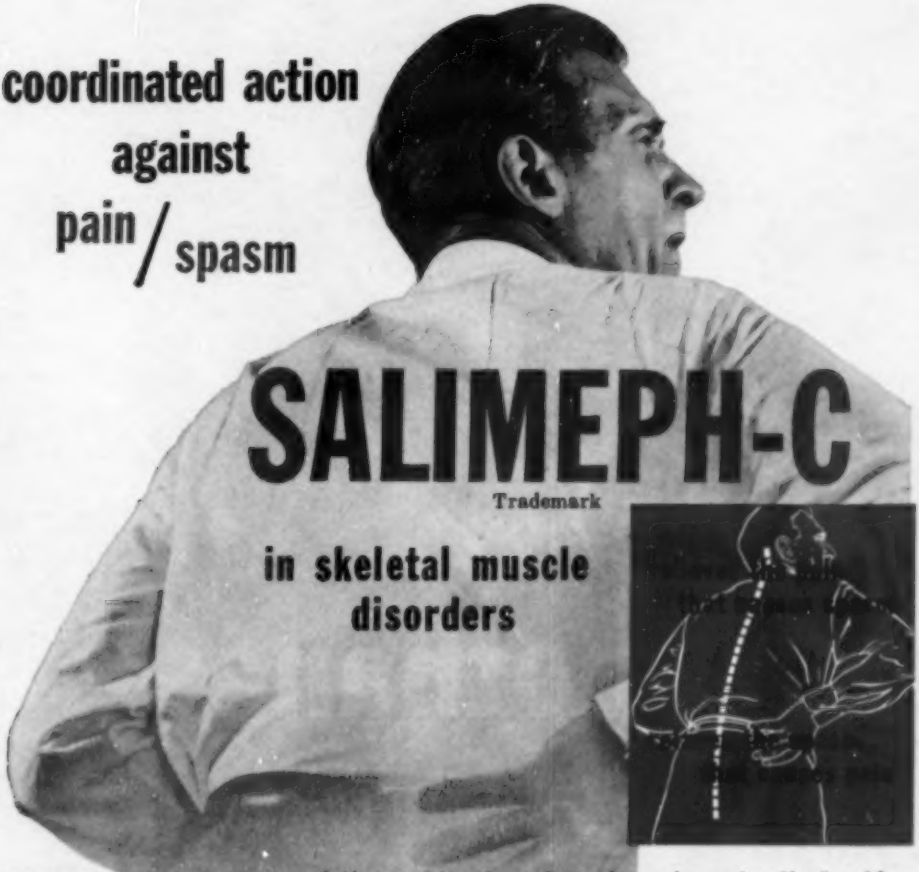
Thephorin 'Roche'
the daytime
antihistamine —

Thephorin is a potent antihistamine basically different in structure from all other antihistamines -- different also in its action -- it usually relieves allergic symptoms without drowsiness. Out of more than 2000 patients treated with Thephorin, 97% were alert and wide awake during therapy.

About Thephorin therapy in hay fever—

Over 79% of 859 patients suffering from hay fever were relieved by Thephorin.® This daytime antihistamine usually provides convenient control of allergic symptoms without drowsiness. 10-mg and 25-mg tablets, plus anise-flavored syrup.

coordinated action against pain / spasm



SALIMEPH-C

Trademark

in skeletal muscle disorders

SALIMEPH-C,* a new synergistic combination of mephenesin and salicylamide, successfully combats the interrelated pain and spasm of arthritis, myositis, bursitis, spondylitis, and low-back pain by providing:

SUSTAINED MUSCLE RELAXATION: in a new clinical study[1] of 200 unselected cases of arthritic and myositic conditions with associated pain and skeletal muscle spasm, **SALIMEPH-C** definitely gave effective relief from pain and spasm often after other forms of therapy including ACTH and Cortisone had failed.

MAXIMUM SAFE ANALGESIA: use of salicylamide in **SALIMEPH-C** provides desired analgesia at a lower drug level[2] and is better tolerated than acid-forming salicylates.[3,4] Optimum vitamin C levels are assured by the addition of ascorbic acid.

REFERENCES: 1. Natenshon, A. L., Wisconsin M. J., in press. 2. Seeberg, V. P., et al.: J. Pharmacol. & Exper. Therap. 101:275, 1951. 3. Brodie, D. C., and Szekely, I. J.: J. Am. Pharm. A., Scient. Ed. 40:414, 1951. 4. Wegmann, T.: Schweiz. med. Wchnschr. 80:62, 1950.

*Trademark of Kremers-Urban Co.

Each tablet of SALIMEPH-C contains: salicylamide 250 mg., mephenesin 250 mg., and ascorbic acid 15 mg.

SUPPLIED: bottles of 100, 500, and 1000 tablets.

ethical pharmaceuticals since 1894

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LABORATORIES IN MILWAUKEE

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A UNIQUE NEW TOPICAL ANESTHETIC

Tronothane®

hydrochloride

VITAL NEW SAFETY FROM

SENSITIZATION OR TOXICITY

OBSTETRICS

DERMATOLOGY

PROCTOLOGY

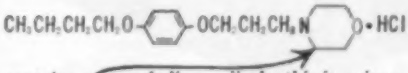
ANESTHESIOLOGY

A NEW APPROACH

TRONOTHANE is a new topical anesthetic created by Abbott Laboratories. It fills a conspicuous gap among anesthetics by combining (a) potent relief from surface pain or sensation with (b) relative freedom from sensitization or toxicity.

NOT A "CAINE"

TRONOTHANE is not related structurally to other anesthetics. Its formula



contains a morpholino radical; this is unique among clinically useful local anesthetics, and serves to reduce toxicity in TRONOTHANE. Note the absence, too, of certain familiar chemical groups, as of the "caine" drugs. Thus cross sensitizations are made unlikely.

LESS SENSITIZING

In comparative tests on 60 adults[2]—much more severe than likely in clinical practice—TRONOTHANE showed only about one-fifth as many sensitization reactions as another widely used topical anesthetic; what TRONOTHANE reactions did occur were moderate.

PROMPT, EFFECTIVE ACTION

TRONOTHANE's anesthetic excellence is amply demonstrated in clinical tests. For example:

FIELD	No. of cases	Good to excellent results	Per cent good to excellent
	100		93
	325		80
	199		93
	185		93

Typical uses include relief of discomfort in episiotomy, cracked nipples, hemorrhoids, anal fissure, anogenital pruritus, itching dermatoses, certain intubation procedures, and minor burns or trauma. *Professional literature is available on request from Abbott Laboratories, North Chicago, Ill.*

Abbott

1. Peal, L., and Karp, M., A New Surface Anesthetic Agent: TRONOTHANE, Anesthesiology, in press, 1954.
2. White, C. J., A New Anesthetic for Certain Diseases of the Skin, J. Lancet, 74:98, March, 1954.
3. Schmidt, J. L., Berryman, G. H., McAndrew, M. J., and Richards, R. K., Unpublished data, Abbott Laboratories, 1952.
4. Schwartz, F. R., TRONOTHANE in Common Pruritic Syndromes. Postgrad. Med., in press, 1954.
5. Birnberg, C., and Horner, H., A Simple Method for the Relief of Postpartum Perineal Pain, Amer. J. Obst. & Gynec., 67:661, March, 1954.

406183

TOPICAL SOLUTION,
1%, 15 cc.
Sterile, not for injection.

Gericaps

IN EACH CAPSULE

TRULY THERAPEUTIC LIPOTROPIC DOSAGE

Choline chloride ..... 240 mg.
(equivalent to choline dihydrogen citrate 500 mg.)

Inositol ..... 200 mg.

To assure your patients more effective lipotropic therapy with much greater freedom from gastric disturbance, the Gericaps formula provides synergistic proportions of choline and inositol to afford lipotropic activity approximating one *gram* of choline dihydrogen citrate.

PLUS

Ascorbic acid ..... 12.5 mg.
Rutin ..... 20 mg.

To prevent and correct the capillary fault frequently encountered.

Vitamin A ..... 1000 units
Thiamine hydrochloride ..... 1 mg.
Riboflavin ..... 1 mg.
Niacinamide ..... 4 mg.
Pyridoxine hydrochloride ..... 0.25 mg.
Calcium pantothenate ..... 1 mg.

To compensate for shortages in fat-restricted diets.

Indicated particularly in cirrhosis, atherosclerosis, coronary artery disease, diabetes. Usual dosage 2 capsules t. i. d.

Supplied in bottles of 100.

Complete clinical data on request

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BIOLOGICALS • PHARMACEUTICALS
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—Continued from page 80a

isolated from a number of these cases. A scarlet fever syndrome was observed in 8 cases and a severe gastro-enterocolitis in 2. The latter two patients died. Eight patients developed a febrile disturbance with infection of the oropharynx and 3 developed urinary infections.

Among the syndromes which were not associated with *Staph. aureus*, 24 patients developed pyrexia without other signs or symptoms. Urticarial lesions developed in 3 patients and transient erythema was observed in 4 patients.

These side reactions indicate that the broad spectrum antibiotics are not without dangers. The authors, therefore, expressed the conviction that the broad spectrum antibiotics should not be used for trivial and minor illnesses.

Therapy with the Antihistamines

A number of facts and comparisons were uncovered by Warin in a study of various antihistamines and their effects as used over a period of about 5 years in a dermatology clinic. The specific antihistamine effect is apparently very similar in all of the drugs investigated. The incidence and severity of side effects usually determines the antihistamine to be used. The drugs with a longer action will build up a greater effect with repeated dosage. Among the drugs studied were promethazine (Phenergan), mepyramine (Anthisan), antazoline, chlorcyclizine, tripelennamine, meclozine, phenindamine, and methaphenilene.

In his report in the *Brit. Med. J.* [No. 4870-1066(1954)], the author stated that he found that there is a wide difference in the degree of histamine antagonism between individuals given the same dose of the drug. If the patient shows a small effect with one drug he usually shows a small effect with others in the series. The strength of the stimulus bringing about the reaction to be treated will vary from patient to patient and also with the same patient from time to time. It was also found that children are relatively insensitive to antihistamines and thus require proportionately larger doses than adults. Before discontinuing prolonged treatment the dosage should be gradually reduced.

Toxic side effects from the antihistamines are relatively low in incidence and mild in form. Drowsiness is the most common side effect. Potential epileptics have been known to develop an attack during antihistamine therapy. No definite evidence has been found to indicate that tolerance to the antihistamine effect of the drugs occurs. The author pointed out that a number of patients had received the drugs continuously over a period of 3 to 4 years without deleterious effects.

Since the cases studied were primarily dermatologic cases, the author discussed the usefulness of the antihistamines from the dermatologic viewpoint. He stated that as experience with these drugs increases it becomes more and more apparent that the only dermatologic conditions showing real benefit from their use in therapy are those conditions in which whealing is part of the eruption.

Vitamin A in the Treatment of Tinnitus

Atkinson had observed that, in reports of treatment of tinnitus and

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chronic progressive deafness with vitamin A in which favorable results had been obtained, some of the patients had also received the vitamin B complex intravenously. Since it was known that the vitamin B complex may in some cases improve tinnitus and reduce hearing loss, the author felt it wise to determine the effectiveness of vitamin A itself. Writing in *A.M.A. Arch. Otolaryng.* [*59*:192(1954)], Atkinson reported that he gave vitamin A orally and parenterally to 10 patients in whom hearing loss and intractable tinnitus had persisted in spite of intensive vitamin B therapy. No improvement was noted in any of these patients.

The Hypotensive Action of Reserpin

In a study of the hypotensive effect of reserpin, the pure alkaloid from *Rauwolfia serpentina*, a group of 20 patients were given much larger doses than usual. Doses of 2 to 3 mg. of reserpin orally were given singly and in the same dose repeated 3 times a day. The trough of the fall following single doses occurred about 5 hours later. In 6 of 9 patients the systolic b.p. was reduced by 40 mm. Hg. and the diastolic by 20 mm. Hg. or more. With repeated doses the fall usually occurred on the first or second day. Systolic falls of more than 40 mm. Hg. occurred in 16 patients, and of 60 mm. Hg. or more in 12 patients. The trough of the fall was well below the basal blood pressure in most cases.

For "STORMY" Lesions

WET OR DRY—EXUDATIVE OR SCALY—*Contact Dermatitis*

or *Psoriasis*

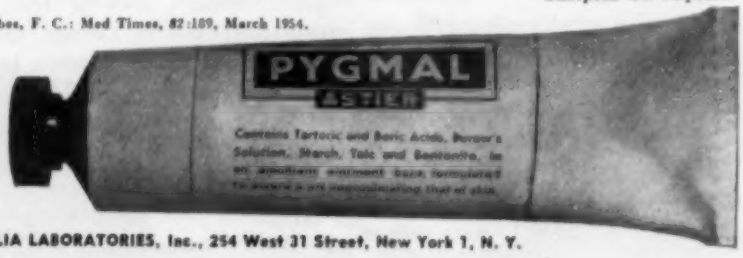
In contact dermatitis—a ***wet*** lesion—PYGMAL[1] is an ideal, bland, healing agent for irritation from poison ivy, household detergents or from other contact irritants. PYGMAL[1] gave rapid relief in 71% of cases of vesicular or exudative dermatitis.

In psoriasis—a ***dry*** lesion—PYGMAL[1] removed scales and improved the appearance of lesions in 89% of cases.

PYGMAL for *contact dermatitis*—for *psoriasis*

Samples on request

[1]Combes, F. C.: Med Times, *82*:189, March 1954.



GALLIA LABORATORIES, Inc., 254 West 31 Street, New York 1, N. Y.

Reporting in *The Lancet* [No. 8622: 1096(1954)], Doyle and Smirk stated that postural hypotension was unusual. However, pronounced side effects were usually observed with these large doses. These side effects included flushing, nasal and conjunctival congestion, sleepiness, depression, mental excitement, dizziness, nausea, vomiting, and diarrhea.

In some patients an additive effect can be obtained with 3 mg. of reserpin a day or less along with certain of the methonium salts.

Antitussive Effectiveness of Dextromethorphan and Codeine

The comparative effectiveness of Dextromethorphan (dextro-3-methoxy-N-methylmorphinian) hydrobromide in dosages of 6, 12, or 18 mg. and of 15 mg. of codeine, and of a placebo in controlling persistent cough in 69 patients was investigated by Cass, Frederik, and Androsca. They reported the results of their study in the *Am. J. Med. Sci.* [*227*:291(1954)]. All of the patients were given each medication three times a day for 7 days for a total test time of 35 days. A statistical analysis of all data indicated that 6 mg. of Dextromethorphan was significantly superior to the placebo but significantly less effective than 12 mg. of Dextromethorphan. There was no statistically significant difference among the 12 and 18 mg. doses of Dextromethorphan and the 15 mg. of codeine, however. Therefore, the authors concluded that for all practical purposes Dextromethorphan hydrobromide and codeine may be con-

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sidered to be of equal antitussive effectiveness milligram for milligram.

Antimalarial Therapy

During the early months of the Korean War suppressive treatment of United Nations Troops was begun. Chloroquine phosphate was administered in a dose of 0.5 once a week. Suppressive treatment is considered the method of choice for combat personnel since any mass curative regimen would be ineffective as a result of the probability of early reinfection so long as the men remained in the malarious area. This suppressive treatment proved to be quite effective.

As Korean veterans began to return to the United States there was a marked increase in the incidence of malaria among Armed Forces Personnel. They were almost exclusively Korean veterans. The potential danger to public health of such a situation caused the Armed Forces to investigate methods of mass curative therapy. Archambeault, reporting in *J.A.M.A.* [*154*:1411(1954)], stated that it was found practical to treat returning veterans while enroute to the U. S. on transports. They administered a daily dose of 15 mg. of primaquine (as base) for 14 days. When the crossing required less than this time the men were given enough tablets to complete the course. The number of relapses of Korean malaria (primarily vivax) was

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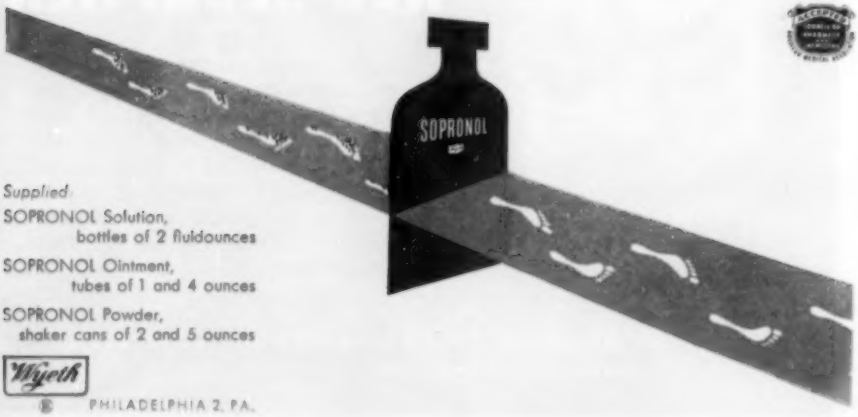
IN ATHLETE'S FOOT . . . When Steps Must Be Taken

SOPRONOL® —the Power of Mildness

PROPIONATE-CAPRYLATE COMPOUND



Supplied:
SOPRONOL Solution,
bottles of 2 fluidounces
SOPRONOL Ointment,
tubes of 1 and 4 ounces
SOPRONOL Powder,
shaker cans of 2 and 5 ounces

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IN ANTIHYPERTENSIVE THERAPY

Veriloid®-VP

Veriloid® 2 mg. and phenobarbital 15 mg. in a single tablet

Indicated when sedation is required to lessen emotional tension. The combination of Veriloid and phenobarbital appears to raise tolerance for Veriloid. • Dosage: Initially, one tablet q.i.d., after meals and at bedtime, to be adjusted according to requirement.

Veriloid®-VPM

Veriloid® 2 mg., phenobarbital 15 mg., and mannitol hexanitrate 10 mg. in a single tablet

Especially useful when the added vasodilating effect of mannitol hexanitrate is desired in addition to the antihypertensive and sedative effects of Veriloid-VP. • Dosage: Same as for Veriloid-VP.

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—Continued from page 88a

markedly reduced as a result of this program.

Gaps in Our Knowledge of Vitamin C

Although our knowledge of the place of vitamin C is body metabolism has increased tremendously, there are still gaps in that knowledge. Harris stated in *Pub. Health Rep.* [*69*:429(1954)] that there are three principal areas in which these gaps occur. First, there is no universal agreement about the amount if vitamin C required daily by man. It is known that as little as 10 mg. a day will prevent scurvy but the exact amount required for full health is much greater although quantitatively still not known. Second, there has been no explanation yet given for the marked unevenness of its distribution among plant and animal tissues, some of which are apparently analogous. Thirdly, although certain aspects of its place in biochemical systems is known, the details of its physiological and biochemical action are largely unknown.

The Rectal Administration of Urethane in Leukemia

Urethane is effective in relieving the pain in plesmacytic leukemia and in the treatment of chronic granulocytic leukemia. It does not, however, appear to alter the ultimate course of the disease. Oral therapy also produces undesirable side effects such as anorexia, nausea, vomiting, and diarrhea. These are frequently so intense that therapy must be discontinued.

—Continued on page 92a

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MOUTHWASH AND GARGLE

Appreciated in the sick room

• The thorough cleansing action of Lavoris and its pleasant, refreshing taste are most welcome to the patient.

A PRODUCT OF MERIT FOR 50 YEARS

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new
dermatologic
principle

topical anticholinergic for skin disorders...

PRANTAL CREAM 2%

50 Gm. tube

for local control of pruritus, sweating

**rapid relief in contact dermatitis,
atopic eczema, dyshidrotic eczema,
neurodermatitis, hyperhidrosis,
and poison ivy dermatitis**

PRANTAL® Methylsulfate
(brand of diphenmethanil
methylsulfate)

Schering

PRANTAL CREAM 2%

—Continued from page 90a

Suhrland and Weisberger, writing in *J.A.M.A.* [*154*:1415(1954)], administered urethane to 20 patients in the form of rectal suppositories containing 1 Gm. of urethane in a base of beeswax and theobroma oil. The daily dose varied from 3 to 6 Gm. for a period of 2 weeks to 22 months. The authors found that rectal therapy was as effective as oral therapy and that side effects were minimal. One patient receiving 6 Gm. a day complained of mild nausea and one patient had diarrhea of sufficient severity to require discontinuation of therapy. No other gastrointestinal symptoms were observed and there were no cases of rectal irritation. The authors thus concluded that rectal administration of urethane is superior to oral administration.

Antibiotics in the Treatment of Amebiasis

A composite evaluation of the amebicidal efficiency of various antibiotics was given by McHardy and Frye in *J.A.M.A.* (*154*:646(1954)). A report of the results of *in vitro* studies was given. The antibiotics tested were oxytetracycline, Chlortetracycline, Chloramphenicol, carbomcin, and fumagillin. Carbomycin was effective against three strains and fumagillin against two of the strains tested. Oxytetracycline was moderately effective in three strains and chlortetracycline was moderately effective in one strain. Further studies were in progress.

Summarizing literature reports of clinical studies as well as the *in vitro* tests reported, the authors stated that oxytetracycline is the antibiotic of choice in the management of intestinal

—Concluded on page 94a

relieve pain, headache, fever promptly and safely

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direct-acting analgesic-antipyretic...

no toxic by-products...

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speeds relief...assures fluid intake

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calms patients and relieves pain

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MODERN THERAPEUTICS

—Concluded from page 92a

amebiasis. Fumagillin is effective by a direct action on the ameba. Chlortetracycline is less effective. They also stated that there is some evidence that combinations of antibiotics may be more efficient. Extra-colonic amebic involvements are not benefited by treatment with the antibiotics.

Adenosine-5-Monophosphate in Calcific Tendinitis

Adenosine-5-monophosphate in a gelatin solution (My-B-Den) was injected intramuscularly every day or every other day in 36 typical cases (plus an additional 17 reported in the addendum) of chronic calcific tendinitis (subdeltoid bursitis). The usual dosage employed was 20 mg. Placebo injections were given to 13 similar control cases. From 3 to 14 injections were required to produce a satisfactory response in 31 (plus 13 reported in the addendum) of the patients, according to Susinno and Verdon in *J.A.M.A.* [*154*:239(1954)]. Eleven of those given placebos were later treated with adenosine-5-monophasphate and 10 obtained good results. No severe side reaction was encountered in any of the patients. Miner complaints of diuresis, flushing or a slightly painful sight of injection were reported by a few of the patients. A flare-up of symptoms was observed on the 5th to 10th day of treatment in about half of the patients treated. There were recurrences in 9 patients, 6 of whom had excellent results upon re-treatment.

SULPHO-LAC
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formulated to Treat Acne . . . . not to mask it.

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. . . often effective *where oral aminophylline has failed*

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CHOLEDYL®

(choline theophyllinate, NEPERA)

the new *oral xanthine medication*

A symposium on CHOLEDYL was published recently (May, 1954) in the International Record of Medicine and General Practice Clinics. Here are three of the principal advantages of CHOLEDYL over oral aminophylline, as noted in this study—*

markedly higher blood levels

"... the ingestion of choline theophyllinate [choledyl] induced markedly significant increases in the theophylline blood levels when compared to those obtained after aminophylline. The increase was 60 to 75 per cent higher for the first two hours. ..."[1]

(The therapeutic effect of aminophylline is due solely to its theophylline content.)

minimal side effects

"... gastrointestinal irritation with choline theophyllinate [choledyl] was a rare occurrence."[2]

no drug fastness

"Of great interest was the absence of the development of tolerance or resistance to the effects of the drug even after choline theophyllinate [choledyl] had been administered to patients for as long as 75 weeks."[3]

CHOLEDYL for *planned* diuresis, *prolonged* coronary vasodilation, *continued* relief of bronchospasm, *relief* and *prevention* of premenstrual tension

*Reprints available on request

supplied: *100 mg. tablets, bottles of 100 and 500;*

200 mg. tablets, bottles of 100, 500 and 1000.

dosage: Adults—*initiate with 200 mg. q. i. d.—preferably after meals and at bedtime. Adjust to individual requirements.* Children over six—*100 mg. t. i. d.*

1. Gaglioni, J., et al.: Internat. Rec. Med. & Gen. Pract. Clin. *167*:251, 1954.
2. Grossman, A. J., et al.: Internat. Rec. Med. & Gen. Pract. Clin. *167*:261, 1954.
3. Batterman, R. C., et al.: Internat. Rec. Med. & Gen. Pract. Clin. *167*:261, 1954.

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estrogen-progesterone

effective in

menstrual disturbances:

Cyclogesterin

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Each scored tablet contains:

Estrogenic Substances* .. 1 mg.
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Progesterone .....30 mg.

**Naturally-occurring equine estrogens (consisting primarily of estrone, with small amounts of equilin and equilenin, and possible traces of estradiol) physiologically equivalent to 1 mg. of estrone.*

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OBOLIP

Each capsule contains:

phenobarbital	16 mg.
WARNING: may be habit-forming	
d-amphetamine sulfate	5 mg.
choline bitartrate	400 mg.
dl-methionine	150 mg.
vitamin B_{12} U.S.P.	4 mcg.
methyl cellulose	160 mg.

Dosage: One capsule three times daily, with a glass of water one-half hour before meals.

Prescribe OBOLIP *in bottles of 50 capsules.*

*Zelmas, S.: Arch. Int. Med. 90:141, 1952.

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filmtab* Erythrocin®

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NEW filmtab* ...for faster drug absorption

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NEW filmtab* ...for earlier blood levels

Because of the swift absorption, your patient gets high blood levels of ERYTHROCIN (Erythromycin Stearate, Abbott) in *less than 2 hours*—instead of 4-6 hours as before. Peak concentration is reached within 4 hours, with significant concentrations lasting for 8 hours.

NEW filmtab* ...for your patients

It's easy on them. Compared with most other widely-used antibiotics, *Filmtab* ERYTHROCIN is *less likely to alter normal intestinal flora.* Prescribe *Filmtab* ERYTHROCIN for all susceptible coccic infections—especially when the organism is resistant to other antibiotics. Bottles of 25, 100 (100 and 200 mg.).

Abbott

**TM for Abbott's film sealed tablets, pat. applied for*

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NEWS AND NOTES

Nylon, Waterless Cleaners May Cause Skin Trouble

Nylon fabrics and waterless hand cleaners can cause or contribute to skin diseases of the hands and feet.

Reports on the two substances were made by Dr. George E. Morris, Boston, in the June issue of *Archives of Hygiene and Occupational Medicine* and by Dr. Robert G. Carney, Iowa City, in the June issue of *Archives of Dermatology and Syphilology*.

Dr. Morris said many waterless hand cleaners, which are used widely in industrial plants, are based on cold cream, soap, or synthetic detergents. However, the only waterless cleaner of any value to the "really dirty worker" is one based on such solvents as kerosene or benzine.

These solvents are "especially hazardous" since they sensitize and irritate at the same time. He said such cleaners are not only dangerous but are only "an expensive method of using kerosene as a skin cleaner."

Dr. Morris reported on nine cases of hand skin disease caused by using such hand cleaners.

Dr. Carney stated that nylon fabrics may be an important factor in producing and prolonging skin diseases, particularly in persons with foot diseases involving the circulation.

"This appears to be due to the lack of absorbency of nylon and suggests the possibility that nylon fabrics may promote or contribute to other dis-

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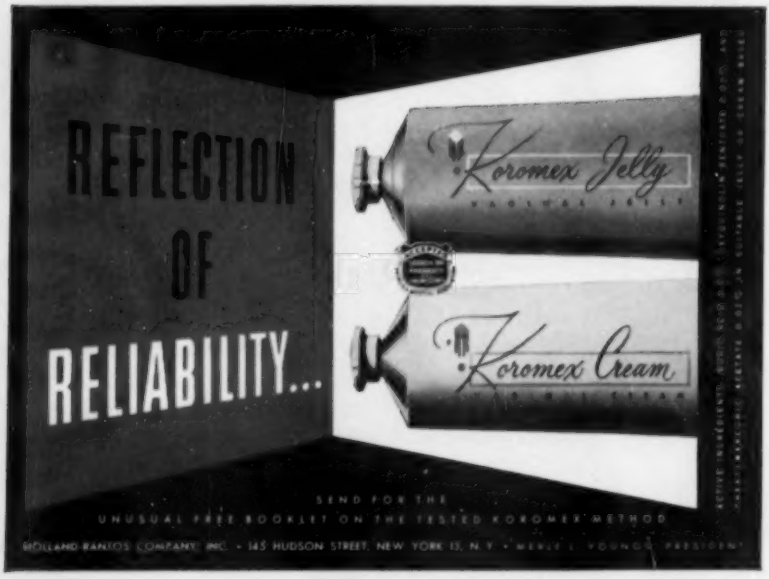
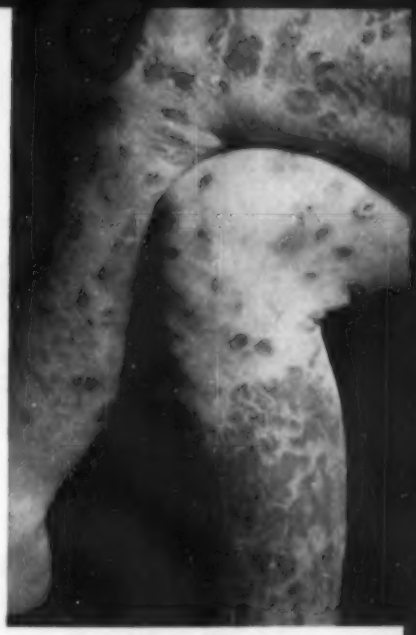
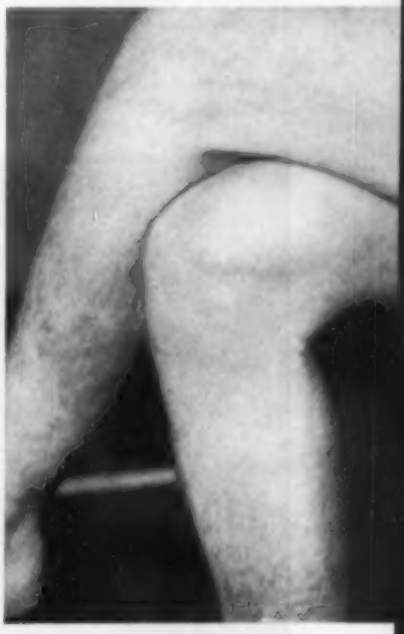


If at First You Don't Succeed try, try RIASOL FOR PSORIASIS



BEFORE USING RIASOL



AFTER USING RIASOL

In a clinical test on 21 psoriatics who had failed to respond to other drugs, RIASOL cleared the lesions in 38% and improved the condition in 76% of the series. Remissions of psoriasis occur in only 16½% with other kinds of treatment.*

In the successful cases treated with RIASOL, the psoriatic patches faded and cleared in an average of 7.6 weeks. Scaliness was stopped or greatly relieved in 71% of the whole series; redness and papulation, in 67%.

The cutaneous lesions responded to RIASOL regardless of type or location. Results were equally favorable whether the patches were located on the limbs, trunk or scalp. Clearing usually spread from the center toward the periphery of the lesions.

These statistics show why RIASOL should be tried when other treatments fail.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin invisible, economical film suffices. No bandages required. After one week, adjust to patient's progress.

RIASOL is supplied in 4 and 8 fld. oz. bottles at pharmacies or direct.

*A statistical study of 231 cases of psoriasis reported by Lane and Crawford in the *Archives of Dermatology and Syphilology* 35:1051, 1937.

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Druggist ..... Address .....

RIASOL for PSORIASIS

NEWS AND NOTES

—Continued from page 100a

orders in which sweating and moisture are factors," he said.

He described cases in which such foot diseases were aggravated whenever the patients wore nylon hose and alleviated when they changed to silk or cotton.

Nervous Stress Should Be Ended Quickly

That familiar urge to "get away from it all" should be succumbed to when it is a sign of stress, an editorial in a recent issue of the *Journal of the American Medical Association* stated.

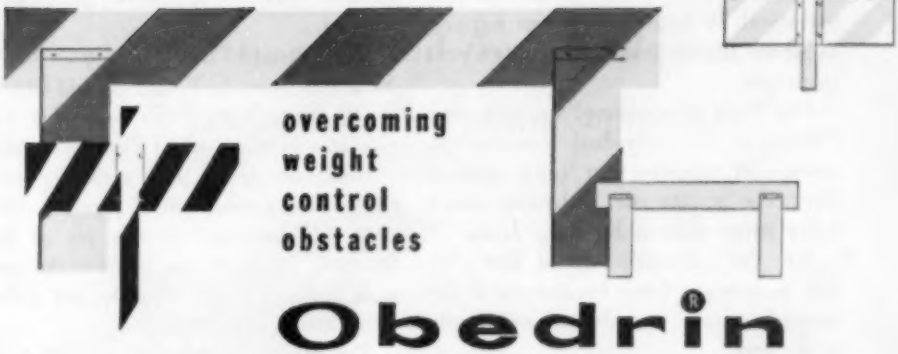
The editorial said stress implies "an inner conflict or a conflict against circumstances for which no immediate action is appropriate."

"As with other conditions, prevention, when possible, is better than cure," it said. "Removal of the cause is still the best treatment. After that, rest, a change of scene, and a change of interest are the most effective therapeutic measures."

Continued stress may result in such diseases as duodenal ulcer, malignant hypertension and rheumatoid arthritis. It may play an important role in nervous fatigue, infection and intoxication.

The editorial reported on a study of combat stress during World War II and the Korean conflict. It showed that men who had been under almost constant artillery bombardment for five days with only 7 per cent casualties

—Continued on page 104a



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Patients can lose weight and maintain a restricted diet, in comfort, without undesirable side effects . . .

EXCESSIVE DESIRE FOR FOOD

Obedrin offers the full anorexigenic value of Methamphetamine to curb the desire for food, while counteracting mood depression. Patient cooperation is made easier.

NERVOUS TENSION

To avoid excitation and insomnia, Pentobarbital is the ideal daytime sedative. It counteracts overstimulation by Methamphetamine, but does not diminish the anorexigenic action.

VITAMIN DEFICIENCIES

Obedrin tablets contain adequate amounts of vitamins B_1 and B_2 to supplement the 60-10-70 Basic Diet, but not enough to stimulate the appetite.

EXCESSIVE TISSUE FLUIDS

Large doses of Ascorbic Acid aid in the mobilization of fluids, so often an obstacle in obesity.

BULK NOT NECESSARY

The 60-10-70 Basic Diet provides enough roughage, so artificial bulk is unnecessary. The hazards of impaction caused by "bulk" producers is obviated.

Write For
60-10-70 Diet
Pads, Weight Charts
And Professional
Sample Of
Obedrin

Each tablet contains:

Semoxydrine HCl (Methamphetamine HCl)	5 mg.
Pentobarbital	20 mg.
Ascorbic Acid	100 mg.
Thiamine HCl	0.5 mg.
Riboflavin	1 mg.
Niacin	5 mg.

S. E. MASSENGILL CO.

Bristol, Tennessee

NEWS AND NOTES

—Continued from page 102a

were far worse off than those who had withstood 18 hours of intense fighting in which the unit suffered 70 per cent casualties.

The study also showed an enormous difference in individual reaction to stress. It appears that some persons have the ability to withstand much more stress without breaking down.

But the editorial warned that "no one is immune from breakdown if the stress is severe enough and sufficiently prolonged."

Heartburn May Mask Serious Illness

A touch of heartburn which can be "fixed up fine" with bicarbonate of soda can be a mask for serious disorders such as ulcers, stomach cancer or heart disease, two New York physicians warned.

M. Bernard Brahdy (cq), M.D., Mount Vernon, N. Y. and Harold Gluck, Ph.D., New York City, gave this advice in a recent issue of *Today's Health*.

Heartburn is the term generally used to describe a sensation of pressure, fullness or "burning" in the pit of the stomach or near the heart. As one man put it, "I feel just like my gullet is on fire."

The feeling usually comes about 10 or 15 minutes after eating but may occur on an empty stomach.

It is not always ominous—it may be

—Continued on page 106a

Maximum Bile Flow

CHOLOGESTIN gives fast and effective results because it contains *salicylated bile salts*. It is more potent than ordinary glycocholate-taurocholate mixtures, in both choleretic and cholagogue actions. When bile flow is sluggish, **CHOLOGESTIN** gives prompt relief. Indicated in biliary and gallbladder conditions, intestinal indigestion and acholic constipation. Prescribe 1 tablespoonful **CHOLOGESTIN** in cold water p.c. three **TABLOGESTIN** tablets with water are equivalent to 1 tablespoonful of **CHOLOGESTIN**.

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Please send me free sample of **TABLOGESTIN** together with literature on **CHOLOGESTIN**.

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"unusually good results"[1]

"easy, safe, and free of side-reactions"[1]

"adaptable for routine office use"[1]

A 1-cc. injection of sustained-action MY-B-DEN, daily or every other day, relieved pain and disability in 44 out of 53 patients. In nine patients awaiting surgery, relief was "so gratifying" that operation was cancelled.[1] Equally successful results have been reported by other investigators.[2,3]

MY-B-DEN®

(adenosine-5-monophosphate)

Supplied: MY-B-DEN Sustained-Action in gelatine solution: 10 cc. vials in two strengths, 20 mg. per cc. and 100 mg. per cc. adenosine-5-monophosphate as the sodium salt.

1. Susinno, A. M., and Verdon, R. E.: J.A.M.A. *154*:239 (Jan. 16) 1954.
2. Rottino, A.: Journal Lancet *71*:237, 1951.
3. Pelner, L., and Waldman, S.: New York State J. Med. *52*:1774 (July 15) 1952.

"pioneers in adenylic acid therapy" **Bischoff**

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*A dynamic approach to better health for the aging patient**

IN THE 40's AND 50's

"disease or body change is lurking in the background"† even though the individual may feel in good health. In this age group "Mediatric"* will help prevent premature atrophic changes due to waning sex hormone function and inadequate nutrition.

IN THE 60's AND 70's

involutional changes become increasingly apparent as the body loses its ability to resist environmental stress. "Mediatric"* will aid the aging economy cope more successfully with three important stressors: gonadal hormone imbalance, dietary insufficiency, and emotional instability.

IN THE 70's AND 80's

functional impairment is at its peak and, in most cases, is the end result of progressive disorders which had their onset in the forties. Patients treated with "Mediatric"* have responded with increased physical vigor, improved muscle tone, and better emotional balance.

†Kountz, W. B.: J.A.M.A. *153*:777 (Oct. 31) 1953.

* **"MEDIATRIC"®**

Steroid-nutritional compound

STEROIDS . . . to counteract declining sex hormone function
NUTRITIONAL SUPPLEMENTS . . . to meet the needs of the aging patient
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Capsules, No. 252 – bottles of 30, 100, and 1,000.
Liquid, No. 910 – bottles of 16 fluidounces and 1 gallon.

Average dosage, 1 capsule or 3 teaspoonfuls of liquid, daily.

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for relief of pruritus

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(brand of crotamiton)

now in lotion as well as cream form

An outstanding advantage of EURAX in the relief of pruritus is prolonged duration of action. A single application is effective for 8 to 10 hours...will secure for your patient uninterrupted sleep throughout the night.

Additional recognized advantages of EURAX Lotion and Cream are:

- ***Prompt action***
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You can prescribe EURAX Lotion alone as an effective antipruritic agent, or as a bland antipruritic vehicle in which to incorporate other medication.

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10% Cream and Lotion.
Prescription only.

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NEWS AND NOTES

—Continued from page 104a

the result of excessive smoking or too much "morning after the night before." Its cause may be nervous and involve simply an increase in one of the digestive acids. Bicarbonate of soda and other "home remedies" will relieve this kind of heartburn.

But heartburn also can come from organic disorders. Chronic gall bladder disease interrupts the digestion of fats and can cause gas and heartburn. So can appendicitis. Cancer of the stomach eats away the lining of the stomach and invades the muscle wall.

"Obviously bicarbonate of soda and its second and third cousins will not cure the heartburn caused by cancer," they said.

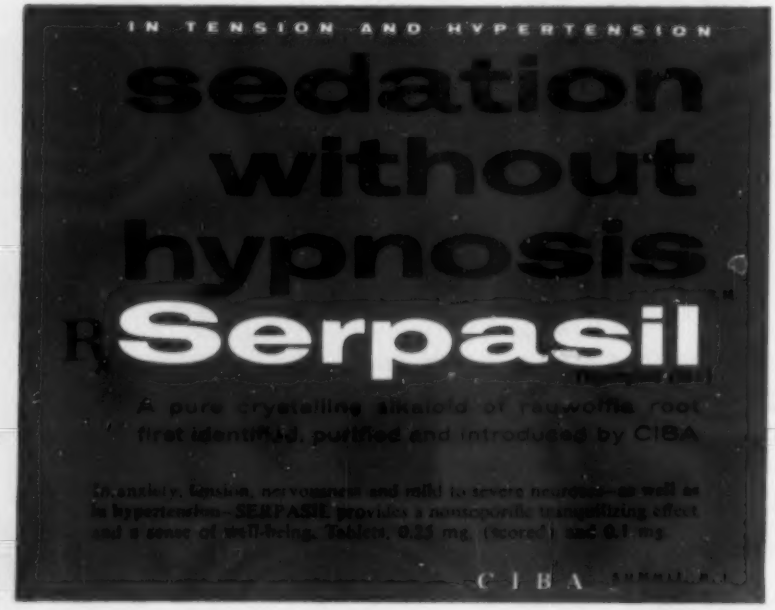
The two physicians said a patient frequently is rushed to a hospital in a critical condition, and the family explains he had "a little heartburn but bicarbonate of soda fixed him up fine."

"Bicarbonate of soda fixed him up so well that it masked angina pectoris —a symptom of one of the most important causes of sudden death," the physicians said.

Angina pectoris is characterized by a sense of oppression around the heart and a severe stabbing pain which often extends to the left arm and back between the shoulder blades. The patient brushes aside the symptoms as heartburn. Sudden death often follows.

Bicarbonate of soda and other antacids "can only camouflage the trouble, while the underlying cause goes on unchecked," they said. "To treat one symptom of a disease is as fruitless as trying to treat the leaves on a plant when the roots are dying. Only a physician can get at the root of the trouble

—Continued on page 110a



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d-Amphetamine—Vitamins and Minerals Lederle

THE WEIGHT ON HIS FEET

PUTS A LOAD ON HIS HEART !

***RE** ducing*
***VI** tamin*
***CAPS** ules*

REVICAPS is the unique prescription product which combines d-Amphetamine, methylcellulose, vitamins and minerals as an aid to weight reduction.

REVICAPS suppress appetite.

REVICAPS elevate the mood.

REVICAPS supply the vitamins and minerals needed for balanced nutrition.

Dosage: One or two capsules, ½ to 1 hour before each meal.

Bottles of 100.

Available on Prescription Only

Each REVICAPS *capsule contains:*

d-Amphetamine Sulfate	5.00 mg.	Ascorbic Acid (C)	20.00 mg.
Vitamin A	1670 U.S.P. Units	Methylcellulose	200.00 mg.
Vitamin D	167 U.S.P. Units	Iron ($FeSO_4$ exsiccated)	3.34 mg.
Thiamine HCl (B_1)	1.00 mg.	Calcium ($CaHPO_4$)	140.00 mg.
Riboflavin (B_2)	1.00 mg.	Phosphorus ($CaHPO_4$)	108.00 mg.
Niacinamide	20.00 mg.	Iodine (KI)	0.50 mg.
Calcium Pantothenate	0.34 mg.	Fluorine (CaF_2)	0.10 mg.
Pyridoxine HCl (B_6)	0.34 mg.	Copper (CuO)	1.00 mg.
Folic Acid	0.34 mg.	Potassium (K_2SO_4)	5.00 mg.
Vitamin B_{12}	0.34 microgram as present in concentrated extractives from streptomyces fermentation	Manganese (MnO_2)	1.00 mg.
		Zinc (ZnO)	0.50 mg.
		Magnesium (MgO)	1.00 mg.
		Boron ($Na_2B_4O_7$)	0.10 mg.

Lederle

LEDERLE LABORATORIES DIVISION

AMERICAN Cyanamid COMPANY

PEARL RIVER, NEW YORK

*Reg. U. S. Pat. Off.

—Continued from page 108a

and advise the proper plan of treatment."

Proctology Fellowship Announced

The International Academy of Proctology announces the establishment of a Teaching and Research Fellowship in proctology under the direction of Dr. Marcus D. Kogel, Dean of the newly formed Albert Einstein College of Medicine, New York City. The Academy has voted a $1,000 Annual Grant for each of three years to assist in the development of research and educational projects in proctology at the University.

One of the suggested projects is the establishment of a pathological tissue slide "library" for teaching purposes, under the direction of Dr. Alfred Angrist, Professor of Pathology.

As emphasized at the recent Sixth Annual Convention of the Academy in Chicago, the major function of the Academy is educational. All Academy funds are to be used for research and teaching projects in proctology so that earlier diagnosis and better treatment of patients with diseases of the colon and rectum may be made universally available.

The Academy offers a Teaching Seminar, open to all physicians without fee, each year. Research Fellowships in proctology are sponsored by the Academy, and three such Fellowships were voted at the time of the last Annual Meeting.

—Concluded on page 114a

provides relief from a wide variety of seasonal allergies

BENADRYL Hydrochloride (diphenhydramine hydrochloride, Parke-Davis) is available in a variety of forms—including Kapseals,® 50 mg. each; Capsules, 25 mg. each; Elixir, 10 mg. per teaspoonful; and Steri-Vials,® 10 mg. per cc. for parenteral therapy.

BENADRYL®

Patients troubled by lacrimation, nasal discharge, and sneezing respond to BENADRYL and enjoy symptom-free days and restful nights.

MEDICAMENTA PARKE-DAVIS

Parke, Davis & Company

Rauwidrine™

A NEW EXPERIENCE

RAUWIDRINE—a new experience in serenity and pleasant confidence for the depressed and melancholy, the dispirited and frustrated patient.

The contained Rauwiloid not only creates the feeling of serenity but also largely prevents the cardiac pounding, tremulousness and insomnia so often produced by amphetamine alone—and without the use of barbiturates.

In obesity, the appetite-suppressing effect of amphetamine can be maintained for long periods, and the feeling of deprivation is averted.

Rauwidrine combines 1 mg. of Rauwiloid with 5 mg. of amphetamine in one slow-dissolving tablet.

For mood elevation, usual initial dosage, 1 to 2 tablets before breakfast and lunch.

For obesity, 1 or 2 tablets 30 to 60 minutes before each meal.

Physicians are invited to send for clinical test samples.

Riker

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LOS ANGELES 48, CALIFORNIA

In Neuritis—

is temporary relief enough?

Now—

THE LONG PERIOD OF DISTURBING SYMPTOMS CAN BE REDUCED BY THE PROMPT USE OF—

PROTAMIDE

When you have a case of neuritis (intercostal, facial or sciatic) where the inflammation of nerve roots is not caused by mechanical pressure, let Protamide demonstrate how much faster lasting relief can be obtained than with usual therapy.
Usual dose: one ampul every day for five days or longer.

NEURITIS

(Sciatic • Intercostal • Facial)

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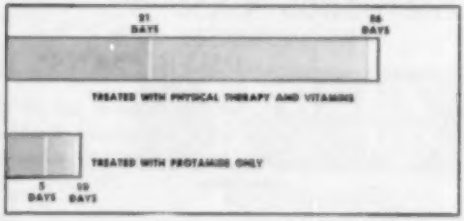
CONTROL—156 Patients
The Course of the Disease
Was 21 Days to 56 Days

PROTAMIDE—84 Patients
Complete Relief was
Obtained in 5 to 10 Days



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"TREATMENT OF NEURITIS WITH PROTAMIDE"
Richard T. Smith, M.D.
Associate in Medicine and Chief of Arthritis at Jefferson Medical College and Hospital; Associate Physician and Chief of Arthritis, Pennsylvania Hospital; Director of Department of Rheumatology, Benjamin Franklin Clinic.

REPRINTS AVAILABLE

—Concluded from page 110a

Offer Unusual Films on Lung Collapse Surgery

As a service to professional groups and educational institutions, Lakeside Laboratories, Inc., has made available two new films from Denmark showing in operative close-ups the dramatic possibilities of lung collapse therapy with an unusual plastic sponge, even in advanced bilateral tuberculosis.

Harvey L. Daiell, M.D., scientific director, announced that at present only a limited number of prints are available in the United States. He said that the two films, based on extraperiosteal pneumolysis with the Polystan Plombe, are each 16 mm and silent. One is in color and one in black and white. Preferably they should be shown together, Dr. Daiell explained.

The one in color shows the operative procedure in actual cases and describes theory, with anatomic diagrams. The black and white film deals with a series of case studies, illustrated with X-rays and tomograms.

"Extensive clinical experience abroad suggests that Polystan Plombe, composed of a special high-molecular polyethylene, is inert, non-shrinking and permanent," Dr. Daiell said, "removing the main objections to the use of extraperiosteal pneumolysis for permanent collapse therapy in pulmonary tuberculosis."

A monograph is also available to the profession. It describes the experience of chest surgeons in Europe.

Professional groups who wish to exhibit the films are asked to write to the *Professional Service Department, Lakeside Laboratories Inc., 1707 East North, Milwaukee 1, Wisconsin.*

PHYSICIANS' HOME

is extending financial aid to elderly Doctors, their wives and widows throughout the State. Your contribution will enhance The Home's usefulness.

Dr. Beverly C. Smith, President

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GENERAL PRACTICE, well established, equipped, large corner brick house, excellent location—Queens, N. Y. Rent of office or Sale of entire house. Call HAvemeyer 9-1973 or write Medical Times, Box 8F61.

GENERAL PRACTICE, Westchester (N. Y.). Only minimal investment required for equipment on premises. Giving up branch office in apartment building in growing community. Write Medical Times, Box 8F60.

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PROFESSIONAL SUITE, 7 rooms in garden apartments on busy corner in center of town, reasonable rental. Write Owner, 25 South Village Avenue, Rockville Centre, N. Y., or Medical Times, Box 8R1.

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Beautiful handmade and painted jars, imported from Germany. Wide assortment of styles and sizes. Rich colors. Ideal for office decorations, lamp bases, as vases, for mantel pieces, as gifts, etc. Limited supply, so order now. For complete details write Box 2W, Medical Times.

WHAT'S YOUR VERDICT?

—Concluded from page 33a

neglect.

The question is argued before the Supreme Court. *How would you decide?*

The Supreme Court held that plaintiffs action was not barred by the statute of limitations. The fraudulent concealment of a cause of action by a defendant will suspend the running of the statute until the cause is discovered. Though the negligence of a plaintiff is a good defense against the claim of fraud, the Court was of the opinion that under the circumstances plaintiff was entitled to rely upon the representations of his trusted physician.

Based on decision of Supreme Court of Tennessee.

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ITCHY, IRRITATED SCALP CONDITIONS RECOMMEND

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PINK OINTMENT

ACTIVE INGREDIENTS:
THYMOL, SALICYLIC ACID, SULPHUR, GLYCERINE,
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MEDICAL TIMES, AUGUST 1954

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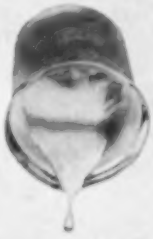
the Ideal Antacid for the Treatment of Hyperacidity, Gastritis, and Peptic Ulcer

Fast Action

Trevidal tablets provide fast relief for they disintegrate completely in less than a minute.

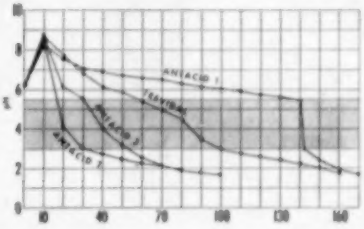
Protective Coating

Regonol, a unique vegetable gum, assures a mucilaginous protective coating to irritated stomach surfaces.



Prolonged Effect

Egraine, a special binder from oat flour, plus a balanced formula of antacids assures prolonged antacid activity.



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aluminum hydroxide gel, dried	90 mg.
calcium carbonate	105 mg.
magnesium trisilicate	150 mg.
magnesium carbonate	60 mg.
Egraine*	45 mg.
Regonol*†	100 mg.

In each tablet, this balance of slow- and fast-acting antacids designed to avoid constipation, diarrhea, and alkalosis.

Prescribe Trevidal in boxes of 100 tablets, specially stripped for easier carrying.

*Trade Mark †Cyamopsis tetragonoloba gum

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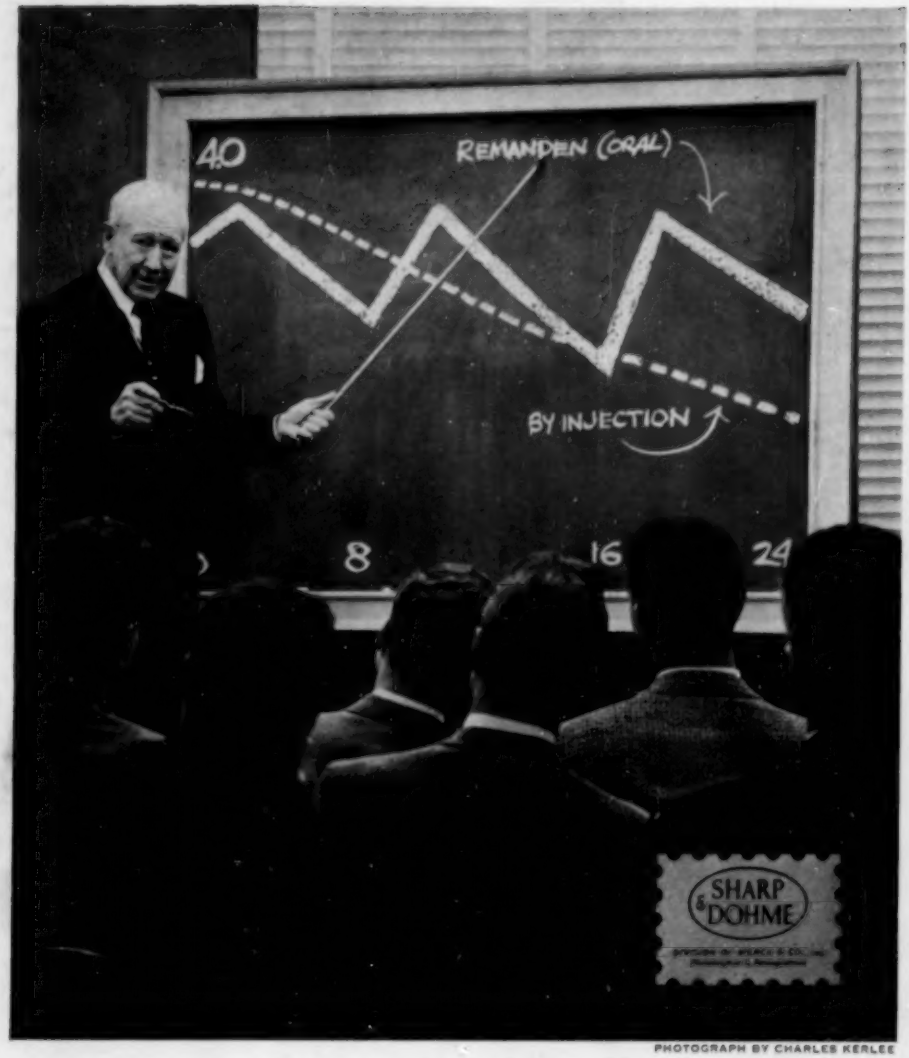

PHOTOGRAPH BY CHARLES KERLEE

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PENICILLIN WITH PROBENECID

The probenecid in this oral tablet produces sustained plasma levels comparing favorably with those obtained by intramuscular procaine penicillin.[1] Compared with other oral penicillin preparations, penicillin plasma levels are 2 to 10 times higher.

Quick Information: REMANDEN-100 and REMANDEN-250 supply 0.25 *Gm.* BENEMID® (probenecid) per tablet and 100,000 or 250,000 units of crystalline penicillin G. *Dosage: Adults,* 4 tablets initially, then 2 every 6 or 8 hours. *Children,* usually 2 to 4 tablets daily.

Reference: 1. Antibiotics & Chemotherapy 2:555, 1952.